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# ENGLAND'S SUPREMACY.

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# ENGLAND'S SUPREMACY:

## *ITS SOURCES, ECONOMICS, AND DANGERS.*

BY

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# INTRODUCTION AND OUTLINE.

It has been the aim of the Author in the following chapters to examine, in the light of the most recent and reliable facts, some important and pressing economic problems of our time. In this effort mere theory and argument have been as much as possible rejected, and the various matters dealt with have been brought to the test of actual figures. It has been an unavoidable result of this method of treatment to divest the book of much of that charm that appertains to works of a purely descriptive or controversial character; but it is hoped that the reader who cares to follow the facts recorded may find some compensation in the information which it has been the main purpose of the Author to communicate.

There never probably was an epoch when well-authenticated facts bearing upon the condition-of-England question were more in demand than at present. There is abroad a very uneasy and restless spirit, which seems to be tending towards the disruption of not a few sound economic principles, as if they were unsuited to the exigencies of the current time. From many different quarters it is proclaimed that England's sun is setting, or about to

set. The undeniable relative depression of trade that has recently prevailed, and is still unfortunately experienced, has been assigned to many different causes, and not always, nor indeed generally, to the true one. The tendency to which humanity as a whole is so prone, of exaggerating present evils, and refusing to recognise that they are simply counterparts, "writ large" or small, as the case may be, of what has gone before, has seldom been so rampant as it is to-day. People forget the lessons of the past, and seek for heroic remedies to mend or end a state of things which all past experience has proved to be recurrent and self-corrective. "On what principle is it," asks Macaulay, "that when we see nothing but improvement behind us, we are to expect nothing but deterioration before us?" Certain schools of politicians appear to have made up their minds that England's supremacy must wane in exact proportion as some other countries make material progress, forgetting the aphorism of Ovid, "*Fertilior seges est alienis semper in agris, vicinumque pecus grandius uber habet.*" It is high time that the pessimist party, which has lately come so prominently to the front, should realise that there is no necessary correlation between the development of foreign countries and the ruin of England.

The condition of Agriculture has, as is only natural and proper, received a large share of consideration. It is not pretended that much new light has been thrown upon this already much-debated question, but the economic problems involved in the present unsatisfactory state of that important interest have been presented, it is hoped, in such a way as will lead to their intelligent appreciation, without the great fatigue involved in wading through the many more formal and pretentious Parliamentary blue-books,

and other official publications, in which the facts are for the most part to be found.

The serious complaints that have been made of agricultural and trade depression during the last two years are certainly not reflected as they might be expected to be in the property and income-tax returns. Between 1880 and 1884, both years inclusive, these returns showed a steady increase of annual value; and 1884, which has generally been regarded as a very bad year, showed a total increase of not less than sixteen millions sterling on 1883. Nor has this increase of annual value been limited to one or two classes of property only; it appears alike in houses, mines, ironworks, railways, canals, gasworks, quarries, and "other profits"—in short, in every one of the various sources of profits that are separately distinguished in the income-tax returns, *excepting only land.* After all that we have heard as to the depression of agriculture, and the reduction alike of rents and profits, it might reasonably be expected that in the annual value of the last-named class of property a very serious decline would be found. Such a conclusion, however, is not warranted by the income-tax assessments, which show that in 1884 the annual returns from landed property were higher than in any year previous to 1873, and were only about four millions of pounds, or, roughly speaking, *about a shilling an acre,* under the highest figure they ever reached.

A remarkable continuity of progress is seen in the official returns of income from trades and professions. In 1874, which was generally regarded as a fairly prosperous year, and when industrial profits were certainly much higher on a given product than they have ever been since the amount of income charged with tax, disregarding

incomes under £100 per annum, was about 125 millions sterling. In 1884, however, the amount so charged was about 139 millions, or *fourteen millions more.* A still more striking fact is the great increase in the numbers liable to the payment of income-tax, proving, as it does, a much more general distribution of wealth, and, so far as it goes, refuting the socialistic cry that "the rich are becoming richer, and the poor poorer." The number of separate incomes between £200 and £1000 charged in 1874 was 108,955, as compared with 203,067 in 1884, showing, within the eleven years over which pessimists tell us that our trade and commerce have been going to the dogs, *an increase of moderate middle-class incomes to the extent of eighty-eight per cent.* In incomes exceeding £1000 per annum, there has been an increase of only thirteen per cent., which tends again to establish the fact that it has not been the very rich, but the middle classes —the back-bone of England's commercial system—who have been making the most solid progress during recent years.

But it is alleged that our progress during the last ten years has been quite incommensurate with that of the immediately preceding decade. In some respects this is probably quite true. Taking the income-tax assessments once more as a test and measure of our progress, it appears that between 1865 and 1875, the amount of income liable to taxation increased to the extent of 175 millions sterling, whereas in the period 1874–84, the increase was 85½ millions sterling. If the increase for the former period is capitalised at only twenty years' purchase, it would represent a capital sum of 3500 millions added to the national estate, against an increase—adopting the same term of years' purchase—of only 1710 millions for the

period 1874–84. Although, then, the increase made to our national income in 1874–84, as reflected in the income-tax returns, is only about 48 per cent. of that of the earlier period, it *is more than two and a quarter times the full amount of the national debt.* In other words, the capital additions made to the national income during the period 1874–84 would be sufficient to more than pay off the whole of our national debt twice over, and still leave the country richer than it was in 1873!

It has been attempted, in some recent political speeches, to prove that the condition of England to-day is less satisfactory, as regards "the greatest good of the greatest number," than it was a few centuries ago. In support of this view, the authority of Professor Rogers has been appealed to. Now, if it is really true, that the mass of the people are worse off to-day than they were some centuries ago, it would imply an infinite amount of reproach on our vaunted civilisation—on all the efforts that practical statesmen and philanthropists have been making, for centuries past, to secure the amelioration of the multitude. If, on the other hand, it is *not* the fact that the people who inhabited these islands some centuries ago were better provided for than their nineteenth-century posterity, all attempts to make it appear otherwise must be regarded as pernicious, ill-judged, and tending to anarchy and discontent.

The "good old times," of which we have heard so much, have been tolerably well described by an author whose researches are deserving of much consideration.[1] Of the fourteenth century it is remarked that the English peasant's cabin "was made of reeds or sticks plastered over with mud. His fire was chimneyless, often it was

[1] Draper's "Intellectual Development of Europe," 5th ed. p. 495.

made of peat. In the objects and manner of his existence, he was but a step above the industrious beaver who was building his dam on the adjoining stream. . . . The common food was peas, vetches, fern-roots, and even the bark of trees. The population, sparse as it was, was perpetually thinned by pestilence and want. It was a miserable social condition, when nothing intervened between the reed cabins in the fens, the miserable wigwams of villages, and the conspicuous walls of the castle and the monastery. Rural life had but little improved since the time of Cæsar; in its physical aspect it was altogether neglected."

Let the condition of things here described be fairly compared with that of the present day, and the result can scarcely be doubtful. In the following pages it has been proved to the hilt that within the last hundred years remarkable and continuous progress has been made in all the essential elements of prosperity and well-being. The earnings of labour have been very largely augmented; the cost of living has been generally reduced; good education has been brought within the reach of the poorest and meanest; sanitary science has achieved manifold triumphs, of the fruits of which the poor partake equally with the rich; the incidence of taxation has been so adjusted as to press least heavily on the lowest incomes; comforts and conveniences have been brought within the reach of all that were unknown to the highest in the land even a hundred years ago; everybody is better fed, better clad, better housed, and better cared for by both law and religion, the Church and the State, than in the days of our forefathers. With all these ameliorating influences in operation, it is not to be denied that the struggle for existence has become keener and

more severe. If there is great progress, there is also great poverty. In order to secure a share of the benefits which are the special heritage of the present age, men are required to be more competent and alert than formerly. Those who fall by the way have probably to pay a higher penalty for their failure. "The English," says Emerson, "are prosperous and peaceful, with their habit of considering that every man must take care of himself, and has himself to thank if he do not maintain and improve his position in society." But it is not by any means certain that there is a greater amount of absolute destitution than there was in former days, notwithstanding this increasing difficulty of maintaining a good place in the race. Our agricultural labourers, for example, have within recent years been allowed sufficient wages to support their families in moderate comfort, whereas formerly they were largely dependent on allowances from the parish. It is made a great source of complaint, and not unreasonably so, that there is still so much pauperism in our midst. But those who wax so querulous over this fact, appear to forget that pauperism is less prevalent to-day than it has ever been in the history of England—that is to say, there never was a period when the ratio of paupers to population was so low as it is at the present time.[1] Even so recently as 1850 the proportion of the whole population of England and Wales in receipt of parish relief was 80 per cent. higher than 1884, notwithstanding that the latter

[1] Although the system of compulsory maintenance for the poor has been in operation in England and Wales since the 43rd year of the reign of Elizabeth, it was not applied to Ireland until 1838, and for neither country are the earlier returns very complete. It appears, however, that in 1850 1 in every 19 of the population was in receipt of parish relief; in 1860, 1 in every 22; in 1870, 1 in every 20; in 1880, 1 in every 30; and in 1884, 1 in every 35.

year is so generally regarded as one of the most intense depression. The amount paid for the relief of the poor per head of the population is now just one-half what it was fifty years ago. Seneca's aphorism that "our alarms are much more numerous than our dangers, and we suffer much oftener in apprehension than in fact," ought not to be forgotten in considering such phenomena as these.

In dealing with the more specially industrial part of the subject, the Author has deemed it well to offer some chapters descriptive of our textile industries, by way of exemplifying the principles and laws by which our manufactures are guided and controlled. Much more could easily have been made of this part of the subject, but not without carrying the dimensions of this volume far beyond the limits assigned to it. The general circumstances of England's industry as regards the relative cost and efficiency of labour, transportation facilities, command of capital, rates of profit, mechanical resources, operations on a large scale, &c., will perhaps be sufficiently appreciated by a perusal of the several chapters in which these phenomena are treated.

It is imperatively required that any serious attempt to compute the sources of England's supremacy, and their probable duration, should take cognizance of England's coal supplies. The chapter which has been written on this subject makes no claim to be exhaustive, but it may fairly be accepted as a presentment of the leading facts of the situation. It is to be feared that when our coal supplies have become relatively dear, England will have passed the zenith of her prosperity. Certain recent writers have claimed that this is a much more proximate event than has heretofore been represented. It is at least probable that when it becomes necessary to

mine the bulk of our coal at a depth of 3000 to 4000 feet, the additional cost of working will entail a great increase of price, which may be expected to be reflected in an enforced economy, a decreasing export, and, not unlikely, a curtailment of manufactures in which coal is largely used, and in which the margin of profit is exceptionally small. It is wonderful how far potential economy has already been carried in steamships and locomotive engines, under the most favourable conditions of working. In some cases, cargo-carrying vessels, steaming at a slow speed, have succeeded in accomplishing long voyages with an average consumption of half an ounce of coal per ton of cargo propelled one mile. At this rate, assuming paper to be as efficient a fuel as coal, the burning of a letter on board such a steamer would utilise sufficient energy to transport one ton of freight one mile. In locomotive engines, the consumption of fuel has been brought as low as two ounces of coal to the ton of freight hauled one mile. In both these cases, however, the *minimum* economy of fuel is only compatible with a relatively slow rate of speed; and when great rates of speed are required, the consumption of fuel rises in proportion. This being so, it is scarcely likely, in England at all events, that speed will be sacrificed to any degree of economy of fuel; and from this source, therefore, the measure of relief to be expected will be less than is theoretically practicable.

Whether electricity will ultimately lead to any material economy of coal, as a source of light, heat, and motive power, or liquid fuel as a source of power for steamship propulsion, are problems that yet remain to be solved. Both are practicable, but the expediency of their general adoption is quite another affair. If oil were sufficiently plentiful in Western Europe, there would appear to be

sound reasons for looking to its adoption on a large scale for the generation of power. It has been proved on the Caspian Sea, where petroleum refuse is the principal fuel used for steamships, that one ton of oil does the work of two or three tons of coal, in furnaces specially constructed for its use; and this must necessarily involve a great saving of bunker space. It is, however, more than probable that unless some subterraneous supplies of oil or natural gas, not now dreamt of, should be found available in our own and other countries in the West of Europe, the most that can be expected is that liquid fuel will only take the place of coal in such a way as to reduce our exports of the latter to countries that have natural oil at command.

In the whole range of politico-economic inquiry, there is perhaps no more interesting subject of study than that of the competition for manufacturing and industrial supremacy between England and the United States. The growth of both nations during the last twenty-five years has been one of the most remarkable facts in the world's history. Both countries have had many advantages in common; each has had advantages and opportunities peculiar to itself. England, as the older country, has enjoyed the benefit of an established and universal commerce, a merchant marine of surpassing mobility and efficiency, a wealth of inventions and processes more or less limited to itself, a highly skilled and industrious proletariat, and many other means of maintaining and improving her place among the nations, which a new and undeveloped country can only acquire by graduated and often difficult stages. America, on the other hand, has possessed an enormous wealth of virgin soil, ready to hand, whereby it became possible for men, so to speak, to reap

where they had not sown; it had the further advantage of being divested of all old-world practices and traditions in reference to the transfer and holding of land; it was unburdened by laws of primogeniture, entail, hypothec, and many other anomalies and evils that have grown up around the English land system; it was, until lately, free, or almost so, from any national debt; it had almost entire exemption from such forms of taxation as poor-rates—for how could there be many poor where there was abundance for all?—it had magnificent internal water-ways, which rendered transportation simple and inexpensive; it possessed inexhaustible mineral wealth of every description; and over a great part of its area it enjoys a climate that is second to none. Considering, then, that these were the essential, though by no means the sole, differences that for the first half of the nineteenth century distinguished the two greatest communities of the Anglo-Saxon world, it is important to consider the results that have followed from the use and development of the special advantages of each. This has been done somewhat fully in the course of the present work, both by an examination of their opposite and conflicting economic systems, and by a comparison of their growth in industry, agriculture, commerce, and wealth. No apology is needed—certainly none is offered—for the prominence assigned to the great American Republic in the course of the present work. The agricultural development of the United States is likely to be the controlling factor in the future, not alone of England, but of nearly every other European country, affecting equally countries that are dependent on imports of bread-stuffs, and countries whence bread-stuffs are exported. The industrial development of America, and the relation of the tariff thereto, are matters of scarcely subordinate

importance, and have received scarcely less prominent notice.

It may be thought by some that undue attention has been given to Manufactures as distinguished from Agriculture; but however this might apply to other countries, where agriculture is the chief, and often the only, great interest, it can scarcely refer to so essentially manufacturing a nation as England. The unique wealth of this country is the direct result of her manufactures, and the reasons why manufacturing industry contributes so materially to a country's wealth are not far to seek. They may be found in a comparison of the cost of the raw materials of commerce with that of the commodities they are employed to produce. The manufactures of England are mainly the products of raw materials imported from abroad. The cotton trade is dependent upon the United States, India, and Egypt; the alkali trade upon Spain; the woollen trade upon the Australasian Colonies and South America; the jute trade upon India; the paper trade upon the esparto of Spain, and the timber of Norway and Sweden; the silk trade upon China, India, and France; and so with other industries. For our cotton manufactures we import raw materials to the value of 47 millions sterling, and, after clothing our own 37 millions of people, we export cotton goods to the value of about 63 millions sterling, the difference between the two sets of figures being mainly created by industry. Of esparto grass, &c., we import, for our paper manufactures, about 1¼ million pounds' worth, and we export paper and books to the value of over 4¼ million pounds' worth. So it is with our woollen and other industries, the raw materials imported being subjected to processes of manufacture which increase their value precisely in proportion to the amount

of labour bestowed upon them, such increment varying from perhaps only twice the cost or value of the raw materials, to a hundred, or, it may be, a thousand times that value. Generally speaking, this increment is entirely due to the cost of labour, and goes mainly to reward the workers employed in our leading industries. Anything, therefore, that affects the course of our industrial development, whether favourably or adversely, is a matter of concern to the whole community. In the chapter which deals with England's commerce, the recent facts of the case have been examined in some detail. They show that while England has not within the last few years made the "leaps and bounds" that had attended her commerce in some former periods, she is nevertheless making real progress; and that if she has sent less to Continental and American markets, she has sent more to her own Colonial possessions. In view of the latter fact, the chapter devoted to a consideration of England's Colonial Empire can hardly be regarded as inopportune.

Nor is it likely to be objected that, in considering the special conditions of England's supremacy, her highly satisfactory position with regard to mechanical aids to production has been made too much of.

It is not difficult to understand that a great deal of the poverty of India and other Eastern nations may be mainly owing to the absence of that general application of mechanical appliances, and that consequently minute subdivision of labour, which are such prominent features of modern European industry. A recent writer on Indian artizans remarks that their industry is not fit for any foreign market. Even with a bare living, they can hardly compete with foreign machine-made goods, and consequently industry is in a very decaying state. For instance, "the

same man who cuts the wood, brings it home, saws it, makes a clumsy sort of wheel from it, and takes it himself to some town to sell for a country cart." After this it is not surprising to find that, although a list of sixteen manufacturing towns is given, "except of brass ware of Mathra and Mirzapoor, inlaid ware of Morodabad, silver and embroidery work of Lucknow, carved work of Nagina, and scent of Jounpore, hardly any other manufactures go out of their native district;" and hence, also, "out of a total recorded export of 58¾ millions, only 6½ represent the value of what can properly be called manufactured goods, 93½ per cent. being raw produce."

It is very much the custom of some writers to attribute England's supremacy to her extent of seaboard. The Author has not discussed this matter at any length, because, while it is an undoubted advantage to any manufacturing nation to have an extensive seaboard and ample and convenient ports, such desiderata are not absolutely essential to industrial success, and hence too much importance must not be attached to their possession. England and France have each an ample seaboard while Switzerland is a land-locked country. But Switzerland has, nevertheless, succeeded in rivalling both England and France in several important industries, especially those of silk-manufacturing and watch-making; she now produces more silk, and employs a greater number of hands in that industry than Great Britain. In calico-printing, also, Switzerland is coming well up to the level of England; while her cotton and woollen industries have grown enormously within recent years.

There is such a wide divergence of views and practice in regard to fiscal laws and economic systems that these, and their effects on national well-being, could

hardly have been overlooked in such a work as the present.

There are some countries whose natural resources for the carrying on of staple manufactures are so comparatively meagre and imperfect that if they are to have a native industry at all, it *may* be essential that it should have some degree of protection. Norway, for example, in the absence of coal supplies, could never carry on the manufacture of iron and steel in competition with England and Germany, whose coal supplies are abundant. Nor could Sweden, even with its abundance of good ores of iron and cheap labour, compete, in the matter of price, with countries that had these advantages and coal besides. But it need never be pretended that such is the case with the United States. In the nature of her circumstances, there is no reason why America should seek protection for native industry; nor is it easy to understand why, if protection is to be the order of the day, it should be conceded to the Northern manufacturer, and withheld from the Western farmer. It not unfrequently happens that the very men who have profited most by American protection are the least backward, when the policy or expediency of that system is not in question, and their own interests are not directly threatened, to express their admiration of free-trade. The rottenness of the system of protection has been exposed so often and so ably that the Author almost feels as if he owed his readers an apology for again "slaying the slain;" but the urgency of the present political crisis, and the specious proposals put forward by so-called Fair-traders with a view to the re-establishment of protection, must be his excuse.

The scope of the present volume has given it somewhat of the character of a treatise on political economy—an

appearance that the Author was rather desirous to avoid. He remembers, with a profound consciousness of its accuracy, what Professor Jevons wrote in 1870, namely, that "there is no one who occupies a less enviable position than the political economist. Cultivating the frontier regions between certain knowledge and conjecture, his efforts and advice are scorned and rejected on all hands. If he arrives at a sure law of human nature, and points out the evils which arise from its neglect, he is fallen upon by the large classes of people who think their common-sense sufficient; he is charged with being too abstract in his speculations, with overlooking the windings of the human heart, and with undervaluing the affections." The risks to which Mr. Jevons thus adverted may possibly be incurred to some extent in the present volume; but abstract speculation and conjecture have been as much as possible avoided, and certain knowledge has been put as prominently to the front as the circumstances of the case would allow. In short, the main purpose of the book has been that of supplying such references as may be needed from time to time to throw light upon England's true place in the economy of nations.

It is not by any means pretended that the subject of England's Supremacy has been *exhaustively* dealt with in the present volume. *That* would be a task that few writers, and certainly no one book, could adequately perform. The necessarily fragmentary character of the Author's labours has been sufficiently recognised in his comments on the various questions that have received attention. But it may at the same time be claimed that the more essential phases and phenomena of the subject have not been neglected. The comparison of the earnings of labour in different countries, in particular, will probably

convey as much information as is needed to an appreciation of the differences that exist in this regard. The question is, however, such a wide one, that it is all but impossible to bestow upon it the careful correlation and analysis which should always precede the formation of opinions in reference thereto.

On the whole, the present condition of England, although not perhaps relatively so pre-eminent as it has been, is positively as good as, if not better than, at any former period. As for the future, about which so many profess to be greatly concerned, there is reason to believe that it is as far from being beset by the dangers and ruin that are anticipated by the pessimists as it is remote from all liability to peril and decay claimed by the highly optimist. England, in short, as we have been careful to point out, is beset with numerous risks; has more than one real peril. But such, after all, has been her position all along; and though the rivalry of other nations may call for the exercise of greater tact, vigilance, and industry on the part of her people, these qualities have never yet been absent when they have been urgently called for. Without attempting, then, to cast the horoscope of the future, it may be permitted to refer those who are unduly apprehensive as to what it has in store, to the prophetic words that Macaulay wrote nearly half a century ago:

"If we were to prophesy that in the year 1930 a population of fifty millions, better fed, clad, and lodged than the English of our time, will cover these islands; that Sussex and Huntingdonshire will be wealthier than the wealthiest parts of the West Riding of Yorkshire now are; that cultivation, rich as that of a flower-garden, will be carried up to the very tops of Ben Nevis and Helvellyn;

that machines constructed on principles yet undiscovered will be in every house; that there will be no highways but railroads, no travelling but by steam; that our debt, vast as it seems to us, will appear to our great-grandchildren a trifling encumbrance, which might easily be paid off in a year or two, many people would think us insane."

If all that is here shadowed forth has not already come to pass, equally remarkable progress has been achieved in other directions. The shadows which coming events cast before them must be singularly misleading, if this progress is not destined to continue for very many years to come.

# CHAPTER I.

## *GENERAL CONSIDERATIONS.*

"It must, at all times, be matter of great interest and utility to ascertain the means by which any community has attained to eminence among nations. To inquire into the progress of circumstances which have given pre-eminence to one's own country would almost seem to be a duty. If this remark may be applied with propriety to any people and to any age, assuredly it may be so applied to this country, and to the present generation, by which have been made the greatest advances in civilisation that can be found recorded in the annals of mankind."—G. R. PORTER.

IF the reader will take up a map of the world, he will find a very small island in the west of Europe, projected partly into the Atlantic, and partly into the German Oceans. It is so small by comparison with the rest of the world that its area is scarcely a four-hundredth part of that of the habitable globe. Its population, although one of the most dense of which we have any record, is yet only about a fortieth part of that of the world at large. Its geographical position will not be found in the centre of a great continent, but so insular and isolated that it might seem as if it were designed by nature to stand aloof from the rest of the planet of which it forms so apparently insignificant a section.

Such are the outward and visible circumstances of Great Britain, as ordained by nature. No environment could, in its general characteristics, appear more mean and uninfluential. And yet the country so situated has "burst

its birth's invidious bar," and has so far risen superior to any thrall imposed by geographical considerations as to have attained the most enviable and envied, if not the most distinguished place in the history of the world. That place which Mr. Gladstone so eloquently claims for Ancient Greece—"a marked, appropriated, distinctive place in the providential order of the universe"—is the place that England fills to-day. Other nations may have been equally great in literature and philosophy; other lands may have had equal claims to be regarded as the nurseries of learning and of art; other peoples may have been possessed in as high a degree of the military instinct, and may have acquired as great a renown in the arts of war; but what other nation can be regarded as in all respects so well entitled to

"Leave a lofty name,
A light, a landmark on the cliffs of fame"?

If a modern Rip Van Winkle, waking after a sleep of two hundred years, were to inquire into the circumstances of this little group of islands, he would be certain to express great amazement, if not absolute incredulity. For what would he be likely to learn? First of all, that the population had almost quadrupled in number, and that the metropolis of the country alone had in 1884 nearly as many inhabitants as the whole of England in the year when he went to sleep. He would learn that between 1801 and 1881, the population of England and Wales had increased by nearly 200 per cent., and that of Scotland by nearly 150 per cent.; and that the larger population not only seemed to get on as well, and enjoy as much prosperity as the smaller, but that their material condition was in every way changed for the better.

But his wonder would only begin here. Two hundred years ago England had already entered upon her beneficent career of colonisation. She was in possession of what are now the United States of North America, then esti-

mated to contain a population of only 80,000, and now populated by nearly 60 millions, mainly of the Anglo-Saxon race. Besides these, England had other colonies to the number of seventeen, all of which, except three, had been acquired by settlement. But very little had yet been done in the way of colonising any of these possessions, and most of them were the wild and barren haunts of aborigines or fierce carnivora.

Among the phenomena that have marked the history of England during the last century two might be expected to stand out with special prominence—the first, that England had contrived, through the most culpable blundering, to lose her American colonies—which had developed meanwhile into the most powerful and prosperous Republic of modern times, whose mission it was to supply the mother country with a great part of her food supplies, and in this, and other ways, to enjoy a degree of consideration and importance unknown to them under British rule; the second, that the seventeen colonies possessed by England prior to 1700 had, since that date, developed into no fewer than fifty-five.

Nor is it the vast ramifications of Britain's Colonial Empire alone that would be calculated to excite emotions of surprise. Its remarkable growth in population and wealth would inspire even deeper wonder. In the interval referred to, the whole continent of Australasia has come under British rule, beginning with New South Wales in 1787, and ending with the Fiji Islands in 1874. Peopled, at the former date, by comparatively a mere handful of aborigines, these colonies have, in an incredibly short space of time, acquired an European population of close on four millions, whose success has been such in their new home that their average individual wealth is greater than that of any other people on the face of the earth. Practically the whole of India, originally held in a very partial manner in 1625 by the East India Company, has now come under British rule, with its area of a million

and a half square miles, and its teeming population of two hundred and fifty millions; and Canada, with its still greater area of nearly three and a half million square miles, conquered from France, partly in 1759 and partly in 1763, has become an integral part of the British Empire, not to speak of possessions in Africa, exceeding in area that of the British Isles themselves in the proportion of three to one.

To sum up the considerations already set forth, it would be found that this small Kingdom had in 1884 acquired an Empire exceeding in total area 8½ million square miles, or about seventy-two times her own extent, and containing a population nearly nine times her own—that, in short, to use the words of Dr. Kolb,[1] England had extended her dominions into all parts of the world, until "it exceeded the old Roman Empire both in area and in population;" and that "for industrial and commercial development, and for wealth, the British dominion has no equal, either now or formerly."

But there are yet other phenomena, political and material, calculated powerfully to strike the imagination and stimulate the wonder of our supposed Rip Van Winkle. For he would find that England did not, like the old Roman Empire, rule her colonial possessions with a rod of iron, and compel them to pay tribute, intended to ease the burdens of her own citizens. On the contrary, he would discover that her possessions were generally united to the mother country by much slenderer and yet stronger ties; that they were generally permitted to enjoy self-government; that they made their own laws, and founded their own institutions; that they were not even called upon to contribute towards the maintenance of those outward and visible elements of strength which were largely kept up for *their* safety—the army and navy; and that, even in India, where she ruled a mixture of races, all of them alien in traditions, in religion, and otherwise, England was

[1] "Progress of Nations," English edition, p. 177.

content to trust mainly to the beneficence of her rule, aided by a mere handful, comparatively, of her own soldiers.

The area and population of the British Empire are not more remarkable than the great diversity of races and languages which it embraces. No empire of either ancient or modern times has been nearly so polyglot. In India alone we rule over 250 millions of people, who speak about eighty-seven different languages, and embrace a great variety of races. At the head of the list there are 82½ millions speaking Hindustáni. Then we have 39 millions of the Bengali tongue; 17 millions of the Telugu; 17 millions of the Mahratti; 16 millions of the Punjabi; 13 millions of the Tamil; 9½ millions of Guzrati; 8¼ millions of Canarése; and so on in a regularly descending scale until we come to races of such attenuated dimensions as the Lepcha, the Kurumba, the Khampti, and the Singpho, whose numbers, severally, are under five thousand. It is to be remarked, also, that while the English are the dominant race in India, they occupy only the twenty-second position in point of numbers, the total English-speaking population in 1881 being only 202,920, in a native population of upwards of a thousand times that number.

The supremacy of England must always be regarded as largely identical with the supremacy of the language which is called by England's name. Whatever differences of sentiment may arise in reference to other matters, it is scarcely possible to conceive of England and her numerous family of colonies, &c., disagreeing as to her claim to be regarded as the focal centre of the English-speaking race, alike in laws, learning, wealth, and commerce. And if the supremacy of England is measured by this test, it will be found to be as unquestionable as in any other regard. In 1801 the English language was spoken by only 21 millions of people, 14½ of whom were resident in the United Kingdom. In 1884, fully 100 millions

of people acknowledged the English as their mother tongue, of whom only 37 millions were resident in the mother country. In the interval, the English-speaking population within the United Kingdom itself had increased by 21 millions, while the English-speaking population without these realms showed an increment of over 65 millions. Selecting the seven principal European languages for comparison, it appears that, between 1801 and 1884, the total French-speaking population—including all colonies, &c.—increased by 16 millions, the German-speaking population by 39 millions, the Italian and Spanish-speaking population each by 15 millions, the Russian-speaking population by 36 millions, and the numbers speaking the Portuguese language by five millions, against an increase of *seventy-nine millions*, in the English-speaking race, or its branches and tributaries. In other words, taking the total numbers speaking these seven languages as 100, English contributed to that figure an aliquot part of only 12·9 in 1801, against 19·6 contributed by French, 18·4 by German, 16·0 by Spanish, and 18·9 by Russian. In 1884, however, English represented 27·1 of 100, against only 13·0 by French, 18·6 by German, 11·4 by Spanish, and 18·3 by Russian. These figures surely prove that, at the commencement of this century, England, as regards the universality and dominance of its language, occupied only the fifth place among the nations of the world, whereas in 1884, the supremacy of the English-speaking population had become greatly superior to that of any other.

Comparisons are often made between the British Empire of to-day and the most extensive empires of modern times. But the conditions are really not sufficiently relevant and parallel to admit of a just comparison. England's Empire comprises both a larger area and a larger population than were known in the days of Ancient Greece and Rome. Countries equalling in their united extent more than twice the size of Europe now own the sway of Britain. This

highly favoured country now wields an influence in different parts of the globe to which the history of modern times supplies no parallel. And this is not done by the fear of coercion, by the menace of invincible armies, by the superior prowess of its arms. Both absolutely and relatively, Great Britain has one of the smallest armies of any nation in Europe, excepting, of course, those of some third-rate powers. Relatively to its population, indeed, the British army has not kept pace with those of other powers. In 1881, England had only 54 soldiers per 10,000 inhabitants, while France had as many as 131; Germany, 99; Russia, 111; Austria, 72; Italy, 134; and Belgium, 84. Hence, notwithstanding the enormous Empire she has to safeguard, and the unprecedented value of her wealth and commerce, England has to-day, relatively to her population, a very inconsiderable army. Surely, if this fact teaches any lesson, it is that influence and dominion are not necessarily dependent upon mere armed hosts; that there is a moral power inherent in the character and temper of a people that counts for more even than the prowess of battalions; and that England possesses that power in a very remarkable, if not an unique degree.

Again, what can be conceived of as more calculated to excite the emotional part of a true patriot than the magnitude of English maritime and commercial interests, and the consequent material prosperity of the country. Two hundred years ago, coal was a despised mineral, but little known in arts and manufactures, and absolutely rejected as a source of domestic heat and light.[1] Now it has come to be recognised as the greatest means of our national wealth; and the production of coal from the mines of Great Britain alone has increased from only two or three million tons per annum at the commencement of the present century to about 160 millions of tons. In

[1] When coal was first brought into London, the people objected to use it on account of its effects on the atmosphere.

the getting of this coal, about half a million workers are employed, on whom a further population probably approaching three millions in all, or almost equal to the whole population of England in the year 1550, are dependent.

What, again, is more remarkable in the history of nations than the growth of England's mercantile marine? Within the present century our fleet has fully quadrupled in tonnage, and has much more than quadrupled in efficiency. The steam tonnage of the United Kingdom now exceeds that of all the other countries of the world put together, and is increasing very largely from year to year. England, in fact, does practically one-half of the whole carrying trade of the world.

It is not required that we should speak of the development of the railway and telegraph systems, of the inventions of the steam-engine, gas, and the electric light, because these are things that England shares in common with other nations. But it will be found—largely as a result of what we have already stated as to the development of her mineral and shipping resources—that England has become the "world's workshop;" that she both exports and imports commodities of all kinds more largely than any other nation in the world; that the amount of her exports, per head of the population, is about twice that of either France or Germany, nearly three times that of the United States, seven times that of Russia, and about five times that of the Austrian Empire; that she manufactures textiles for nearly all the rest of mankind; that her iron trade exceeds in volume and importance that of all other countries put together, excluding the United States; and that, as a corollary to all this, her people, in general, are able to enjoy perhaps better earnings and more comforts, with shorter hours of labour, than those of any other country of modern times.

When all the remarkable phenomena of progress to which we have referred has been fully borne in upon the

mind of the inquirer, he would be likely to propose the three following interrogatories, viz. :—

1. How has this remarkable growth of empire, of industry, and of commerce, been brought about?
2. Have the other leading nations of the world shown the same rate of progress as our own, and if not, why not? and what is to hinder them from overtaking and even surpassing us in the time to come?
3. Can it be that the progress which has marked England's career heretofore is destined to continue? and, if not, when, and in what direction, will England's supremacy begin to decay?

The following pages have been written with the view of examining and, as far as possible, supplying a solution to this triple problem. But before proceeding to look into the details of the subject, it may be observed here, in more general terms, that the supremacy of England is not to be measured or tested by any one consideration or fact. It is a product of many different influences, some very obvious and proximate, others esoteric and remote; but all of them necessary to a just estimate of the result to which they have jointly and severally contributed. It is not alone the history of England, as history is generally understood, that can give us a clear insight into the circumstances which have moulded and controlled our national pre-eminence. That pre-eminence is governed by influences which are more or less of a scientific character. It is affected by geological and mineralogical considerations of the extent and value of our mineral resources; by considerations of climate, temperature, &c., which are embraced in the science of physical geography; by considerations of race, which must be brought to an ethnographical test; by geographical considerations of our position in relation to other countries, and especially in

relation to the sea; and by hyetographic considerations of moisture, as determined by rainfall. Nor do even these determining considerations, great and important though they be, entirely exhaust the number and sources of the influences that have made England what she is. Many others, that belong more strictly to the domain of political economy, have exercised, each in its own degree, a certain measure of effect. Just notions of taxation and finance, freedom of action and contract, non-interference by the State, security of property, exemption from monopolies, the free import of raw materials required in manufactures, and the entire absence of restrictions on exports, are but a few of the more obvious of the many factors that the so-called "dismal science" applies to the test of a nation's capacity for progress and development.

It is especially important that we should endeavour to ascertain the character of the dangers that have beset and ultimately overthrown other nations which have at one time or another acquired the same kind of distinction that England now enjoys. There never has been a nation so securely established in all the essential elements of continued prosperity and renown that its future was not more or less subject to vicissitudes beyond prevision or control. Nor is it wise to assume so optimist an attitude with regard to the future of England, as to suppose that it is secured by some mysterious immunity, unknown to other nations, from the chances and changes of ultimate decay. But there is no reason why that decay, if it is destined to come about sooner or later, should not be kept in check by a timely recognition of the sources whence it is most likely to overtake us. The supremacy of England, as it has not been established upon any one circumstance, is not likely to be destroyed or seriously imperilled by any one influence, however potent and far-reaching. It is the belief of many that England's sun will have set when her coal mines are so far exhausted as to involve the working of coals at greater depths than 4000 feet. But it should

not be forgotten that Carthage was great in commerce, Phœnicia in maritime supremacy, Greece in literature and art, and Rome in civil and military prestige, without this modern adjunct to place and power. It was not coal that established the great industrial and maritime fame of Antwerp in the middle of the sixteenth century. It was not the decay of her mineral resources that reduced Spain from the position of the greatest power in Europe, with an empire equalling that of Charlemagne and exceeding that of Napoleon, to the comparatively insignificant position she now occupies. It was not coal that secured for Genoa, Leghorn, Venice, and Florence the illustrious position to which they attained in the thirteenth century, nor was it the absence of coal that brought about their decline. It was not due to any such adventitious aid that England attained in Elizabeth's reign to a height of power and glory such as she had never known before. No; the real elements of a nation's vitality must be sought for in other attributes. The causes of a nation's decay are to be traced in facts of a very different stamp.

Many states have attained supremacy, and many more have lost it, by military aggression. From this latter danger England, having regard to her world-wide empire, would appear to be not altogether free. Other states, again, have lost pre-eminence in consequence of excess of opulence, and the debilitating vices to which it gives rise. The English character is not naturally prone to fall into any such pitfall; but the superior wealth of England may possibly prove a source of weakness at the same time that it is a source of enormous strength. In the case of still other states, of erewhile great renown, such as that of Venice, the sceptre of power has departed by reason of the diversion of the commercial stream into other channels. England's insular position and ready access to all the ports of the world may be expected long to guard her from this danger. The same "silver streak" is her surest protection against that risk of invasion which

has so frequently brought about the dismemberment and ruin of states less happily situated as to their maritime position. A rotten commercial system is now a much more likely means of national decrepitude than it has ever been before; but from this, again, England has nothing to fear. She has long since seen the error of her ways in regard to both the mercantile or selfish system, and that of reciprocity; and whatever economic changes have been introduced of late years have invariably been in the direction of the removal of all restrictions on commerce. Finally, it has been the misfortune of some states once highly prosperous, including Holland, to gradually bend and ultimately break down under an exhausting fiscal system. England is assuredly not quite free from danger on this score. There has been a continual movement towards an increase of fiscal burdens, until there is scarcely another nation in the world so heavily taxed; but, on the other hand, there is perhaps no other nation whose taxation, relatively to its income, is equally small, so that if the present annual income of the country can be maintained, any apprehensions on this account might be allowed to slumber.

From what has been stated, it is obvious that England has not, like so many illustrious nations that have gone before her, built up her supremacy on any one source. But if the sources of her supremacy are numerous, so also are the dangers which threaten its maintenance. We shall endeavour, as we proceed, to fairly estimate those dangers, not in any alarmist spirit, but yet resolved neither to extenuate nor conceal them where they are most apparent.

## CHAPTER II.

### *THE INDUSTRIAL DISTRIBUTION OF POPULATION.*

"The division of labour, the multiplication of the arts of peace—which is nothing but a large allowance to each man to choose his work according to his faculty, to live by his better hand—fills the state with useful and happy labourers; and they, creating demand by the very temptation of their productions, are rapidly and surely rewarded by good sale; and what a police and ten commandments their work thus becomes."—EMERSON.

IN a general way, it may safely be predicated that the nation which has the most varied industry is likely, all other things being equal, to be the most prosperous, powerful, and contented. Agriculture, though the first and most essential of all callings, is still far from yielding the best results, from a commercial and industrial point of view. Take a country that is almost exclusively agricultural, such as Russia, and compare it with another that is almost exclusively industrial, like Belgium, and the comparison is invariably against the agricultural community. If, again, a purely agricultural country be compared with one that is half agricultural and half manufacturing, the latter will be sure to have the best of the comparison. There are several obvious reasons why this is and must be so. Man is a gregarious animal, and he never enjoys, in rural retirement and exclusiveness, that free scope for the development of his highest faculties that is gained in the association with his fellows which urban life affords. Nor does agriculture, under any circumstances, call for the exercise of those faculties in the same way that manufactures do. For in most handicrafts

there is a certain education to be gone through—an education of the eye, of the ear, of the hand, or of the brain—which varies, of course, according to the degree and character of the skill required to succeed in the employment; but is, at any rate, even in its least exigent forms, likely to call for the manifestation and use of higher powers than the ordinary routine labour of husbandry. The higher qualities thus required for industrial occupations are compensated, in a general way, by a better remuneration than that allowed to the mere field labourer. A consciousness of dignity and importance is thus generated; the labourer feels that he is more than a mere chattel—that he is a factor of some kind in the commonwealth, having a stake in the political fortunes and good government of the country; and last, but not least, that his greater skill gives him the command of more considerable means than the ordinary labourer, for meeting, not only the mere cost of maintenance, but also those incidental items of outlay called for by his requirements and his duties as a citizen.

From this point of view, then, it becomes important to consider how far England is abreast of or superior to other nations—how far she is possessed of a manufacturing as distinguished from an agricultural population, and whether that population is increasingly manufacturing or increasingly agricultural, not only absolutely, but relatively, to the populations of other countries.

These questions can be answered with approximate accuracy by a reference to the census returns for different periods. There is not now any nation with the slightest pretensions to a knowledge of the usages of civilisation that does not collect returns of the occupations of its inhabitants. Some are, of course, more complete than others; but none of them are perfect, and most of them leave much to be desired. It is one of the most difficult and delicate operations which the social inquirer is called upon to undertake, to evolve something like order and

co-ordination out of the varying systems of classification adopted in the collection and collation of census returns.[1]

One of the greatest difficulties attending any attempt to compare the condition of nations, as regards the occupations of the people, is due to the different systems of classification adopted by different countries in their enumeration. Thus, the United States census includes, under the head of "professional and personal service," nearly two million labourers, the great majority of whom should have appeared under the heading of "agriculture," but who, having been reported simply as "labourers," have found their way into this category. Moreover, in the English census, "domestic gardeners" are returned under the heading of the "domestic class," whereas in the United States census all gardeners are returned under agriculture, and no attempt is made to distinguish domestic from other gardeners. Again, in the French census, the gendarmerie and police are returned as belonging to the liberal professions, whereas in the English and United States censuses they are returned as belonging to the "general or local government of the country." These are only given as typical examples of the want of co-ordination existing in this matter; and the number of similar instances might be indefinitely multiplied.

In the United Kingdom the great majority of the working population are engaged in one form or other of manufactures. The census of 1881 showed 23 per cent. of the total population to be so employed, or, eliminating Ireland, 24·5 per cent. in England and Wales, and 24·4 per cent. in Scotland. No other country in the world has anything like the same proportion of its population occupied in manufactures. Every other country, with the single exception of Belgium, has a larger proportion of its population engaged in agriculture than in manufactures. The

[1] This subject has often received consideration in the proceedings of Statistical Congresses; and it seems probable that greater uniformity may ultimately be secured.

following summary table will make this fact apparent with reference to the principal nations of the world :—

*Proportions of Populations of Different Countries engaged in Agriculture and Industry.*

| Country. | Percentage proportion of Total Population engaged in | |
|---|---|---|
| | Agriculture. | Manufactures, &c. |
| England and Wales . . | 24·5 | 5·3 |
| Scotland . . . . | 24·4 | 7·0 |
| Ireland . . . . | 13·3 | 19·0 |
| United Kingdom . . | 23·0 | 7·5 |
| United States . . . | 7·6 | 15·3 |
| Prussia . . . . | 13·0 | 17·0 |
| France . . . . | 12·0 | 18·0 |
| Austria . . . . | 10·0 | 28·0 |
| Belgium . . . . | 17·2 | 14·6 |
| India . . . . | 14·6 | 28·0 |
| Average . . | 13·2 | 23·1 |

The enormous preponderance of England as a manufacturing nation is perhaps more adequately shown by these figures than it would be possible to show it otherwise.

One of the most striking features of the recent social and economic history of England is that brought out by an examination of the changes of occupation. In 1851 the total population of England and Wales was 17,926,000, and the proportion engaged in agriculture was 2,011,000, or 11·2 per cent. of the whole. In 1881 the total number engaged in agriculture, in a population of 25,974,000, was 1,383,184, or, as just stated, 5·3 per cent. of the whole.

Concurrently with this decrease of 628,000 in the agricultural population, there has been a very notable increase in the numbers engaged in industrial and commercial occupations. Between 1861 and 1881 the industrial population was raised from 5,184,201 to 6,373,367, being an advance of 1,192,166, or 23 per cent. During the same interval the commercial part of the population showed an increase of 366,418, or 59 per cent.

The numerical relation of each class of occupation to the others, and to the population as a whole, for each of the census years 1861 and 1881, is shown in the following statement:—

| Class of Occupation. | Year 1861. | | Year 1881. | |
|---|---|---|---|---|
| | Total Number (1=1000). | Per cent. of whole Population. | Total Number (1=1000). | Per cent. of whole Population. |
| Professional . . | 481,957 | 2·4 | 647,075 | 2·5 |
| Domestic . . | 1,367,782 | 6·7 | 1,803,810 | 7·0 |
| Agricultural . . | 2,010,454 | 10·0 | 1,383,184 | 5·3 |
| Commercial . . | 613,710 | 3·0 | 960,661 | 3·7 |
| Industrial . . | 5,184,201 | 22·7 | 6,373,367 | 24·5 |

It therefore appears that the only class in which there has been any very radical change, relatively to the population as a whole, has been that engaged in agriculture. Nor is the reason of this change far to seek. It is unmistakeably due to two predominating causes, namely—(1), the more general introduction of machinery, coupled with the tendency to work large farms; and (2) to the replacement of cereal by green crops.

It is worthy of note that the changes we have been considering have proceeded *pari passu* with a considerable increase in the unproductive section of the community, which was 50 per cent. of the whole population in 1861, and 57 per cent in 1881. It may be that this increase of the unoccupied population is due largely to the fact that more people can afford to let work alone than formerly; but it appears to be mainly owing to the decreased employment of female labour, which may be hailed as a sign of growing prosperity. It is a remarkable fact that while the total increase in our productive population between 1861 and 1881 was 15·7 per cent., the increase in our female productive population was less than 5 per cent. Nor is this all. During the same interval the number

of women employed in the hard and unsexing labour of the field has fallen from 378,802 to 64,840, the number engaged in commercial pursuits from 38,290 to 19,467, and the number engaged in manufactures from 1,579,169 to 1,578,189, so that in these three classes of employment, all of them more or less unsuited to the gentler sex, there has been a decrease in 1881 of not less than 323,765 as compared with 1861. On the other hand, it is gratifying to be able to add that the number of women engaged in so-called professional occupations has more than doubled.

Among the many different answers that have been given to the question, "What is the best test of civilisation?" one that is probably the least open to dispute is that which sets up the standard of woman's enfranchisement. There can be no question that the further a nation advances in civilisation and material prosperity, the more is the lot of woman ameliorated. Instead of being condemned, as she is in most barbarous and semi-civilised countries, to bear her full share of the drudgery of field and factory, she is installed in her rightful place in the household, the nursery, and the schoolroom; and it is a sure proof of our advancement that the last twenty years have relieved so many thousands of women from the slavery to which they would have been condemned under less happy and prosperous conditions—all the more so because, during that interval, there has been no special legislation to render such a change compulsory.

A closer analysis of the returns of occupations in different census years, shows that it is not so much in the staple or major trades as in smaller and meaner industries that our growth has been apparent. This, so far as it goes, is a decidedly hopeful and encouraging sign.

We shall now proceed to compare the circumstances of our own country with those of the United States as regards the distribution of occupations, and especially in so far as manufacturing industries are concerned. The total number

of hands employed in such occupations at different periods is stated in the United States Census Reports to have been as under:—

| Year. | Males above Sixteen. | Females above Fifteen. | Total.[1] |
|---|---|---|---|
| In 1850 | 731,137 | 225,922 | 957,059 |
| „ 1860 | 1,040,349 | 270,897 | 1,311,246 |
| „ 1870 | 1,615,598 | 323,770 | 1,939,368 |
| „ 1880 | 2,019,035 | 531,669 | 2,550,704 |

From these returns it would appear that in the United States there was an increase of over 166 per cent. in the numbers employed in manufactures, excluding children, between 1850 and 1880. It needs not that we should add that this *percentage of increase* is much greater than that which has taken place in any European country during the same period. Considered with reference to absolute numbers alone, it would appear that the United Kingdom and the United States progressed to very much the same extent in the shorter and more recent interval of twenty years that separates 1860 from 1880, the increase in the United States having been 1,241,000, as compared with an increase of 1,189,000 in our own country. This fact is remarkable in several ways. It proves that the oldest remains quite as vigorous and as progressive as the newest centre of Anglo-Saxon enterprise. It proves, also, that under a diametrically opposite economic system, England has achieved at least as satisfactory results as her great rival on the other side of the Atlantic. We say *at least as satisfactory*, because it must never be forgotten that the population, and therefore the actual home requirements of the United States, have been augmented much more rapidly than those of England, so that the increase

[1] In addition to these totals, the census of 1870 enumerated 114,628, and that of 1880, 181,921 children. There are no corresponding returns for either of the two immediately preceding decenniums.

of manufacturing industry in the former country has been mainly one designed to supply indigenous wants, while ours has been mainly an increase in the direction of supplying the wants of others.

It would be interesting and instructive if we could compare the results of the increase of manufacturing populations in different countries with the increase itself, as we should thereby be enabled to calculate approximately how far each country was advancing in its industrial capabilities relatively to the population employed. For it is important to bear in mind that mere increase of numbers employed does not necessarily signify a corresponding increase in the product of their labour. Broken time, strikes, locks-out, changes of processes and machinery, accidents to factories and their appliances, commercial depression and misfortunes, and many other causes, tend more or less to disturb the regularity of employment in all countries, but in some much more than in others. There is no way of arriving at the average value of the annual product of the individual labourer in our own country. We can easily show what is the average value of the exports of our manufactures per operative employed in a census year; but we have no figures, nor any means of obtaining figures, that would show the value of the manufactured commodities consumed at home. In the case of the United States, however, the census reports show the aggregate value of the manufactured products for each decennium, and by dividing into this sum the total number of hands employed in manufactures, it comes out that the average annual value of the products of each operative, as determined by the ascertained value of the products manufactured, rose from 1065 dollars in 1850 to 1438 dollars in 1860, and to 2182 dollars in 1870. The value of each man's labour was thus doubled within these twenty years. In 1880 the average was only 2105 dollars, but this decrease was probably in part due to a decline of prices, which would, of course, materially influence the result stated in

either direction, although it is certain that much of the difference between 1850 and 1870 was owing to improved processes and machinery, enabling a much greater production to be got with the same labour.

On the Continent of Europe, as we have already seen, there is a much larger number of persons engaged in agriculture than in manufactures; but this number varies in different countries. Belgium has the largest number employed in industrial operations relatively to her population of any nation in Continental Europe. After Belgium, Germany and France hold the most important positions as manufacturing countries. But to prove how far France is behind England in the leading manufactures of the world it is only necessary to compare the two countries in reference to the numbers employed in textiles, the official returns of which are appended—

| Manufacture. | Total Number of hands employed in | | Excess in England. |
|---|---|---|---|
| | England. | France. | |
| Cotton | 523,754 | 97,833 | 625,921 |
| Wool and worsted | 251,686 | 110,904 | 160,782 |
| Linen, jute, and hemp | 139,835 | 60,585 | 79,250 |
| Mixed textiles | 70,128 | 35,586 | 36,542 |
| Silk (raw) | ... | 50,307 | ... |
| Silk (finished) | 61,131 | 63,302 | ... |
| Totals | 1,046,534[1] | 428,517 | |

It appears from this return that the number of operatives engaged in the textile industries of England is more than double the number so employed in France, even when the much larger proportion engaged in the raw silk manufacture of the latter country is allowed for. The number of operatives engaged in the textile industry of Germany is calculated in the most recent

[1] This total does not include upwards of 62,000 calico printers, calenderers, &c.

census report at 512,208, or nearly 20 per cent. more than in France.

With reference to other industries the following tabular statement shows how the principal countries of the world compare in some of those most common to all:—

| Manufacture. | Total Number of both Sexes employed in | | |
|---|---|---|---|
| | Great Britain. | United States. | France. |
| Porcelain | 60,028 | 9,891 | 26,164 |
| Glass and crystal | 23,638 | 25,763 | 24,943 |
| Paper, &c. | 27,111 | 24,422 | 33,677 |
| Sugar refining | 4,411 | 5,857 | 7,099[1] |
| Iron and steel | 241,346 | 140,970 | 65,352 |
| Mining | 501,112 | 220,000 | 117,705[2] |
| Totals | 857,646 | 426,903 | 274,940 |

In regard to manufactures, Russia is much behind the rest of Europe. The total number employed in the twelve leading industries of that country, after agriculture, was, in 1870, about 725,000. Of this number, by far the largest proportion, 270,000, was engaged in the cotton trade. After cotton came the iron industry, with 150,000; and next in order stood cloth-dressing and weaving, with 70,000. Since 1870, however, these numbers have been considerably enlarged. The sugar industry, for example, has doubled in extent and importance since 1872, though there has been no material increase in the number of factories at work.[3] The industrial statistics of Russia are unfortunately in so backward a condition that it is impossible to state with even approximate precision what is the volume of production relatively to the numbers

[1] In addition to this figure, 57,667 persons were employed in the raising of sugar cane, &c.

[2] This is the number employed in iron and coal mining only.

[3] Russia now produces, in 237 factories, 280,000 tons of sugar per annum, as compared with 1,000,000 tons per annum produced in the United Kingdom.

employed. Mulhall[1] estimates, however, that the total quantity of cotton consumed in Russia is 140 million lbs., and that the average annual quantity of cotton produced per operative employed is only 780 lbs., or about one-fourth of the average produced in Great Britain.

This is, perhaps, a fitting occasion on which to refer to the differences that distinguish the several states of Europe in reference to the numbers withdrawn from productive occupations in order to swell the ranks of the army and navy. A few general facts and considerations may be quoted by way of illustrating the importance of this subject. The total number of men engaged in the military and naval service of Europe in 1881 has been estimated at 3,185,000. The total cost of the maintenance of this vast fighting force is not less than 147 to 150 millions sterling per annum, being an average of fully £46 per combatant. It needs not that we should speak of the drain of the national resources which this system of standing armies involves. No fact is more self-evident. But the amount and incidence of the burden varies in different countries according to the number of combatants, the comparative cost of their maintenance, and the expenditure relatively both to the population and the wealth of the country. Great Britain appears to have the largest expenditure for military and naval purposes of all European nations, excepting only France and Russia, although the strength of the force at her command is less than half that of either of these two countries. Put in another way, it is found that the average annual cost per combatant is £113 in England, as compared with £52 in France, and only £34 in Russia.[2] For this, no doubt, we have some kind of equivalent in a higher degree

[1] "Dictionary of Statistics," p. 113.

[2] These averages do not, of course, apply to the equipment and maintenance of the actual combatants only, but to the expenditure incurred in all the muniments of war as well, including every charge that can be properly regarded as belonging to the keeping up of military efficiency.

of efficiency; and having regard to the enormous interests that our army and navy are required to defend, we may be considered as paying a smaller insurance premium in the form of defensive outlay than any other nation in the world. But it nevertheless makes a point against us that we should be compelled to maintain this vast expenditure in face of the competition of countries like the United States, which have no such enormous outlay incumbent upon them.

## CHAPTER III.

### *ENGLAND'S AGRICULTURAL STATUS.*

The sovereign and the nation should never lose sight of the fact that the earth is the unique source of riches, and that it is agriculture which multiplies them."—QUESNAY'S *Maximes Générales du Gouvernement Economique d'un Royaume Agricole.*

ALTHOUGH her agriculture has long since ceased to be the chief source of wealth of Great Britain, and although it appears as if it were destined to become still less the means of the country's subsistence, it yet remains, and will probably evermore continue to remain, the most important individual factor of national wealth and prosperity. The population of these realms is now much more largely engaged in manufactures than in agriculture, but the latter still employs a very much greater number of producers than any other single industry. Nay more, it even affords employment to a larger number than any other half-dozen industries in the country. This, of itself, is a sufficient reason why agriculture should command a prominent place in any survey of the conditions of our national prosperity; but it is more than ordinarily important that it should engage our attention at a period when both its present condition and its probable future are exciting apprehensions of the gravest character, and when agriculturists are, so to speak, waiting for the verdict that is to determine their true place in the future economy of the State.

There are extant so many excellent works on the general subject of English agriculture, that it would be quite

out of place to attempt anything like a detailed record of its vicissitudes and progress; but a few remarks by way of explaining the conditions under which it has attained its present economic aspects may reasonably be looked for.

It was not until the time of Elizabeth that agriculture began to be prosecuted in England with enterprise and efficiency. It has been calculated that at the time of the Norman Conquest, the population to be supported out of the produce of the soil was under two millions, and that the average consumption of such produce was much inferior to what it is at the present time, both in quantity and quality. Between the Conquest and the reign of Elizabeth, sheep farming was followed perhaps more extensively than any other branch of agriculture. This system, induced largely by the increasing consumption of wool, was lucrative to landowners, but injurious to rural industry; and the fact is reflected in the preamble of a statute which expatiates on the miseries inflicted on the poor by the increase of sheep and the extension of pasture land.[1] Only one-fourth of the whole land of the country was arable in the time of Elizabeth. But the encouragement afforded by that sovereign to all kinds of improvement soon began to tell upon husbandry. An acre of land, in her reign, is said by Harrison to have produced as much as two acres had done before. The average yield of wheat was raised to 20 bushels, of barley to 32 bushels, and of oats and pulse to 40 bushels per acre. This was attributed to the greater skill and thrift of the farmers, who had learned to pay more attention to manures and to the judicious rotation of crops.

From this epoch, agriculture continued to improve and to flourish. Rents were low and taxes were light. Gregory King calculated the total rent of the kingdom in 1688 at about ten millions. This would be an average of about 3s. 8d. per acre, or less than one-half the average rent of agricultural land in the United States at the present time,

[1] 25 Henry VIII. c. 13.

and very little more than the present average rental of such land in Russia. The total number of farmers then in the country was computed at 150,000, which, assuming that farmers alone tilled the soil, would give an average of 370 acres to each farm.[1] The average income of the farmer at that time is calculated by the same authority at £42, 10s. per annum. It does not, however, appear whether this is the nett or the gross income. If the former, it is to be presumed that the farmers of 1688 had "a good time" by comparison with those of the present day, seeing that the purchasing power of money was quite three times as much as it now is. The seventeenth-century farmer, however, if he paid less rent, rates, and taxes, and got his labour, where he employed any, at perhaps less than a third of what it now costs, had these advantages qualified by the generally lower prices of agricultural produce. Beef and mutton did not then cost a third of what they do now, and the average price of wheat was nominally very much less.

In his Northern tour, undertaken in 1768, Young examined over 70,000 acres of land in England, the average rent of which was 10s. per acre, including both the best and the worst. The acreage of the whole country then under cultivation he estimated at 32 millions, and the total agricultural rent of the country he calculated at about 16 millions sterling. Adopting the basis of 33½ years purchase of the rent, Young estimated the capital value of the land at 536 millions, and farmers' stocks at nearly 110 millions, while house property was calculated at 100 millions more. The earnings of the 836,000 persons employed in agricultural labour was estimated at 14½ millions sterling, being an annual average of £17, 9s. per head. This, however, did not include the tenant's labour, which Young declared to be both general and necessary.

[1] This, however, is perhaps scarcely probable, as there were then 160,000 freeholders who would probably also cultivate their own estates, although it is not so stated.

In M'Culloch's "Statistical Account" a tabular statement is given of the acreage and gross and average rental of land in the United Kingdom for each of the years 1811 and 1815, based upon returns made under the Property Tax Act. From this statement it appears that the gross rental rose from about 28 millions sterling in the former year to 32½ millions in the latter, the average rental having been 17s. 1¼d. in 1811, and 19s. 7½d. in 1815, so that in the latter year the average rental was about double that of 1768. From this date the variations in the gross rental may be followed approximately by an examination of the assessments under the Property and Income-Tax Acts, which show that between 1815 and 1843 the average increase of rent per acre had only increased by 3s. 6d. The average rent in Middlesex at the latter date was £2, 17s. 5d., and in 1845 £2, 3s., so that, as between these years, there was a nominal decrease to the extent of 14s. 5d. per acre.[1] Sir James Caird has estimated the average rent of agricultural land in Great Britain to have been 27s. per acre in 1857, and 30s. in 1880.

Up to the commencement of the present century, England was more or less largely a wheat-exporting country. The annual average of the imports of wheat into England, even up to 1820, was under half a million quarters. Between 1821 and 1830, according to Porter, only a very little more than half a million, out of a total population of 15½ millions, were fed upon foreign wheat. During the forty years ending 1844 the increased production of wheat in the United Kingdom was equal to the wants of a population of about 5½ millions, at the rate of eight bushels per head per annum.

The necessities of the people, with reference to food supply, led, as we have just seen, to the much larger cultivation of wheat in the early part of the century, to the increased disregard of pasture lands. Since 1850,

[1] It is, however, to be remarked, that in 1815 there was a greatly depreciated currency.

however, English agriculture has followed quite a different tendency. The facility with which cereals can be imported from the United States and other countries has induced the discontinuance of wheat growing in such English counties as are found suitable for dairy-farming and cattle-breeding, and hence it has happened that while about four million acres were under wheat cultivation in 1870, less than three million acres were so employed in 1883.

The total quantity of wheat available for consumption in Great Britain for the fourteen years ending 1880 has been found to be 5½ bushels per head of the population—including both home-grown and imported corn. But of this quantity only sufficient for the wants of 13,600,000 people was grown at home in 1882, against a supply equal to the wants of 17,300,000 people ten years before.

Coincidently with the diminished area of cereal crops in our own country, there has been an enormous increase of wheat cultivation in the United States. The latter circumstance has, indeed, been mainly instrumental in bringing about the former, compelling the British farmer to resort to other departments of agriculture in which he encounters less fierce competition. It has been the same with other new countries as with the United States. Canada, the Australasian Continent, Russia and Hungary, the Danubian Principalities, and last, but not least, British India, have gone so largely and so successfully into cereal growing as to almost force the British farmer from that field of operations.

There is still, however, a great deal to be done in the way of extending the scope of our agricultural operations. It is probable that in this country, where rents and taxes are so high and labour is so dear, the cultivation of cereals will never again be carried on at a very remunerative price, having regard to the competition of the United States and other countries. But there is no good reason, on the face of it, why England should continue

to import twelve million pounds' worth of butter and five millions' worth of cheese; nor is it perfectly obvious that our farmers and cottagers are justified in allowing us to import between 600 and 700 millions of eggs, seeing that the cultivation of stock and poultry is at once so easy and so profitable.

There can be little doubt that if really scientific dairy-farming were generally followed, as it is in some parts of Cheshire, much more might be made by agriculturists out of this branch of their business. Mr. Coleman, in his Reports to the Royal Agricultural Commission of 1882, gives details of the working of a large dairy-farm in Cheshire, where both butter and cheese are made on a considerable scale, and where the average return of about 100 cows was £15, 14s. 4d. in 1878; £14, 8s. 7½d. in 1879; and £21, 1s. 5d. in 1880.

There may be some danger lest the increasing disposition to import, instead of providing our own home-grown bread-stuffs, may lead to the serious discouragement of agriculture, and the consequent neglect to take full advantage of the wealth of the soil. It is truly amazing to consider that the value of our imports of food increased from 27 millions to 127 millions sterling between 1840 and 1884. This increase may be better appreciated when we say that, while in that interval our population increased by 34 per cent. our imports of food increased by 530 per cent.; that while every inhabitant of the United Kingdom consumed about 21s. worth of imported food in 1840, the consumption of such food in 1883 averaged close on £5 per head. At the former date, indeed, the importation of several of the most important food staples was prohibited, including sheep, oxen, cows, fish, and beef. It was not until 1845 that bacon was admitted free of duty; potatoes were taxed on import until 1846; hams until 1853; butter, cheese, eggs, and rice until 1860; corn and flour until 1869; and sugar until 1874.

An American publicist has asserted that "if every acre of land in the British Isles were cultivated to its utmost capacity, the inhabitants could not raise food sufficient to supply the common necessaries of life." This, however, is scarcely a true statement of the facts. The capacity of a country to support its inhabitants depends more or less upon the character of the crops which it produces. It has been calculated that if the 50 million acres of arable and pasture land under cultivation in the United Kingdom in 1880 were to be wholly under corn crops, and to produce, on an average, 1420 lbs. (say 25 bushels) to the acre, the total yield would be sufficient to feed 93 millions of people, assuming an average consumption of 2 lbs. per day.[1] Dr. Hunter, again, has calculated that while only 53 men can be supported per 100 acres on a dairy-farm, 250 can be maintained on the same acreage of wheat, and 683 on a like acreage of potatoes. It is thus perhaps an economic error to cultivate dairy-farming on so large a scale, to the neglect of cereals; but so long as permanent pasture, which now forms one-half of all the cultivated land in the United Kingdom, is found to pay the farmer better than the raising of wheat crops—which it undoubtedly does at present—the tendency to increase the cultivation of flesh-meat rather than cereals will continue, in spite of the fact that the 25 million acres now under permanent pasture may be only equal to providing for the annual food-supply of 1,128,634 persons, while the 11 million acres under corn crops are estimated to be equal to feeding over twenty million persons.

The character of the crops raised has no doubt a more or less intimate connection with the character of the tenure of the soil. This is a subject that will be more fully considered in another section of the present work. But it may be remarked here that in the matter of land tenure a very remarkable change has come over England,

[1] "Report of the British Association for the Advancement of Science," 1881, p. 749.

even within a comparatively recent period. The number both of freeholders and of farmers relatively to the whole population has been growing less, instead of—as in most European countries—greater from year to year.

The researches of Gregory King into the economical condition of the country, in the year 1688 are known to all students of social and economic statistics. In the absence of any official records, it would be unwise to rely implicitly on the accuracy of figures purporting to represent the condition of the country at this early date. But, subject to this qualification, it is probable that King, whose estimates are quoted with approval by Sir F. Eden,[1] was not very wide of the facts. And what does he show? That in 1688 the population of England was 5½ millions, of whom 750,000 were farmers, 280,000 freeholders of the better sort, and 660,000 "freeholders of the lesser sort." The total number of persons occupied in agriculture is not very clearly stated. They appear to be divided into two categories—the first "labouring people and out-servants," who numbered 1,275,000, and are returned as having an average income of £15 per family; and the second, "cottagers and paupers," whose annual income, per family, is returned at only £6, 10s.

The distribution of the land of the United Kingdom is different in many respects from that of other countries. To begin with, only 0.5 per cent. of the population of this country are numbered among the possessors of land, as compared with 9 per cent. in France, 5 per cent. in Germany, 14 per cent. in Russia, 9 per cent. in Austria, 7 per cent. in Italy, and 8 per cent. in the United States. It results from this condition of things that the average size of the holdings of land in this country is much larger than in other European countries, being, in fact, about 390 acres, as compared with an average of only 32 acres in France, 37 acres in Germany, 41 acres in Austria, 35 acres in Italy, 18 acres in Belgium, and 150 to 160 acres

[1] "State of the Poor."

in the United States. The average size of the estates throughout Europe is about 80 acres, or 79 per cent. less than the average of the United Kingdom.

The total estimated number of farmers in Great Britain is 560,000, which, divided into the total quantity of land under cultivation, would give an average of only 62 acres per holding. It is to be noted, however, that in Ireland, where there are 600,000 so-called farmers, the average size of the holdings is only 25 acres.

Much that is calculated to be of signal service to English agriculture may be gained by a comparison of our own country with the United States.

The first thing that strikes us on looking into the agricultural statistics of the two countries is the remarkable difference in the number of hands employed to obtain the gross product of each. The United Kingdom, with a cultivated area of 50 million acres, supports an agricultural population of 2,650,000. The United States, with a total area of improved land amounting to 284¾ million acres, supported in 1880 a total agricultural population of 7,670,000. It appears, therefore, that while in the United Kingdom there were 19 acres to each person employed in agriculture, the United States employed only one person to each 37 acres. On the first blush this looks as if labour were more efficient in the United States than it is in England. And this, in some respects, is really the case. Agricultural machinery of all kinds is used much more generally in the New World than in the Old, and the high cost of labour renders it necessary to make every effort to secure its utmost economy. But, on the other hand, the soil of America, so far, at least, as cereals is concerned, is greatly less productive than that of England. The average yield per acre in this country is close on 30 bushels; in the United States, in 1880, it was only 13 bushels per acre. India comes between the two great English-speaking nations with an average of 18·7 bushels.

The relative cost of land is a matter of the utmost importance in all agricultural operations—second only, if it is subordinate at all, to the question of the cost of labour. In England the rent of land has varied considerably within recent years. At the present time (1885) it is perhaps 25 per cent. less, all round, than it was in 1880, when, as already stated, it was calculated by Sir James Caird at 30s. per acre. In some districts it is much more; in others it is much less.

The price of land in France, as in other countries, varies according to the locality, its proximity to a market, the character of the soil, the density of population, and other considerations. In the Havre Consular district, according to a recent report, agricultural land in good condition realised in 1882 as much as £64 per acre, and let for 32s. to 35s. per acre. Small farms, however, of 12 to 18 acres commanded a higher rental, sometimes as much as 45s. per acre. Since 1882 these rates have fallen.

## CHAPTER IV.

### *THE DEPRESSION OF AGRICULTURE.*

"I believe that England will be conquered some day in New England or Bengal."—HORACE WALPOLE.

THE condition of English agriculture has long been regarded, and not without reason, with much apprehension, and perhaps even with serious despondency. For some considerable time agriculturists have found themselves surrounded by perils and difficulties apparently quite as bad as those which Hudibras has assigned to "the man who meddles with hot iron." Bad harvests have been oftener the rule than the exception, local taxation has been steadily increasing, labour has been more expensive and less productive, foreign competition has forced prices down to the lowest point known almost for a generation, and altogether the outlook is one that augurs unfavourably for the future of our interests as an agricultural community.

In Mr. Coleman's report on the agriculture of Cheshire, prepared for the Royal Commission on Agriculture, the proportional causes of the agricultural depression of recent years in England are thus tabulated:—

| | |
|---|---|
| Bad seasons . . . . . | 31¼ per cent. |
| Foreign competition . . . . . | 31¼ „ |
| Want of security for capital invested . . . | 12½ „ |
| Unfair incidence of local taxation . . . | 12½ „ |
| Increased cost of labour and expenses generally . | 12½ „ |
| | 100 per cent. |

The differences between 1845 and 1881 on a farm of 141 acres in Cheshire are thus stated:—

| | 1845. | 1881. | Increase per cent. |
|---|---|---|---|
| Rateable value . . | £213 18 10 | £285 0 0 | 34 |
| Poor's rates . . . | 7 2 8 | 28 10 0 | 300 |
| Wages, with food . . | 11 13 6 | 20 0 0 | 82 |
| Women's do. . . . | 6 10 0 | 13 10 0 | 118 |

These figures are perhaps alone sufficient to explain the greater difficulty which the English farmer of the present has found in making both ends meet. But they are not by any means alone in their operation; perhaps they are not even the most serious.

It has been calculated by Mr. Shaw-Lefevre that the extent of the depression is represented by a loss of *two hundred millions sterling*, of which four-fifths has fallen upon the tenants and one-fifth upon the landlords. The causes of the loss to the tenants have already been referred to. They are chiefly the reduced yield of cereal crops resulting from bad harvests, the low prices of agricultural produce, and the loss of flocks and herds from foot-and-mouth disease. The landlords' losses have been due to reductions or remissions of rent. If the loss to the tenants is spread over the whole of the farmers in Great Britain, it represents an average of about £300 for each of the 560,000 farmers estimated to be engaged in British agriculture. If the landlords' losses are spread over the 69,000 owners of upwards of 100 acres of land throughout the kingdom, the average loss comes out as about £600 per owner.

These results appear to be sufficiently disastrous. But it should not be forgotten that up to 1875 the condition of agriculture in the country was highly prosperous —so much so, that between 1857 and 1875, the gain to the landowners in consequence of the increase of land

assessments was calculated at upwards of *eleven millions sterling per annum*, being an increase equal to a capital sum of £331,650,000, calculated at thirty years' purchase. Similarly, the estimated increase of farmers' capital during the same period, through the rise in the values of live stock, was calculated at 114 millions sterling.[1] The price of wheat during the nine years ending 1874 averaged 55s. 3d. per imperial quarter. During the following nine years it averaged only 46s. per quarter. The average yield of wheat over the former period was 28 bushels to the acre, while over the latter period it was about 26 bushels. It has therefore evidently been in the reduction of realised selling price rather than in the reduced yield that the loss on cereal cultivation has been made. The precise extent of the loss so resulting is not very easily arrived at, but if the official estimates of the yields of our harvests over the nine years ending with 1884 can be depended upon, it could not be much less than *fifty millions sterling* in respect of wheat alone. With this great deficiency in the value of cereal crops, there has been a concurrent loss in the growing of live stock, the character and extent of which may be appreciated by the fact that while the area under permanent pasture increased from 23½ million acres in 1874 to 25¼ million acres in 1883, the total number of cattle in the country fell from 10,281,036 in the former year to only 10,097,000 in the latter, and of sheep from 34,873,000 to 28,347,000.[2]

The most immediate effect of the depression that has overtaken our agricultural interests has been to withdraw from the land much of the capital necessary for its proper cultivation. Authorities on the subject of agriculture are not quite agreed as to the amount of capital required

[1] "Financial Reform Almanac for 1885, p. 97."

[2] Foot-and-mouth disease is stated in the Annual Report of the Agricultural Department of the Privy Council to have attacked 800,000 cattle in the outbreak preceding 1883.

for the purpose. The amount, it need hardly be said, will vary according to the character of the soil and the crops to be produced. Sir James Caird has given it as his opinion that "a farm worth £50 an acre for the freehold, needs a further £10 an acre to provide the farmer's capital for its cultivation."[1] If this sum is assumed as an average, it would follow that *five hundred millions* ought to be the capital employed by the farmers of the United Kingdom. It is, however, very doubtful whether the agricultural interest can reckon upon this amount of capital; and Professor Thorold Rogers, who has carefully studied the subject, bears testimony that previous to the recent severe depression, in two at least of the most fertile counties of England, "the average capital of the farmer, on land let at about 30s. an acre, was considerably under £6 an acre."[2] In agriculture, as in so many other industries, and more, perhaps, than in most, the axiom holds good that "money makes money." By a judicious expenditure on improvement, Mr. Lawes succeeded in trebling the natural produce of grass land. Sir Thomas Brassey mentions a case where by the same process, another well-known agriculturist "has obtained a return of more than £10 an acre, as against the average produce of the United Kingdom, which is estimated at £6, 10s.," by an expenditure of £16 an acre on improvements, on which, however, he realised a handsome outlay.[3]

There can be no question that the international commerce in bread-stuffs has tended to the development of American and Canadian agriculture at the expense of that of Europe. England is not the only sufferer. The depression is to be found in most European countries excepting Russia, and from precisely the same causes.

[1] "Presidential Addresses to the Statistical Society, 1881."
[2] "Some Chapters on Work and Wages," p. 109.
[3] "Foreign Work and English Wages," p. 400.

American wheat, cheese, and pork[1] are to be found everywhere. Hostile tariffs fail to exclude them. Protection to home agriculture fails to protect. Lady Verney states that in a recent journey through France she found the French agriculturists complaining bitterly of the "déplacements d'industrie et de commerce" thus produced. Home cereals and dairy produce are undersold by American. The fine wools of Saxony are "ruined by the produce of Australian sheep, which are not nearly so good, but are preferred by the manufacturers of cheap wares," and great distress has thus been occasioned in Germany.[2] In addition to these difficulties France has recently had to contend with the phylloxera and silkworm disease, which have seriously injured her vines and her silk industries.

Among the several causes assigned for the depression of English agriculture, some are capable of remedy, and others are irremediable. It may be hoped that the depression due to bad seasons, want of security for capital invested, and unfair incidence of taxation, will more or less pass away—the first by reason of more propitious climatic and meteorological influences, the two latter by the interposition of public opinion and statute law. But for the competition of foreign countries, to which more than 31 per cent. of the total extent of depression is assigned, it is to be feared there is no cure. England is not likely again to tax imported corn, now more than ever essential to the maintenance of the community, in order that any particular interest, however depressed and threatened, may artificially enjoy a prosperity that would be subversive of the nation's well-being as a whole. Nor would it accord with past experience if the modicum of depression assigned to increased cost of labour were to

[1] *Contemporary Review*, January 1882.

[2] The importation of American salted pork, which was becoming a very important article in the daily dietary of the working classes, is now prohibited in France.

be removed by reducing the remuneration paid in respect of that labour, though it is quite probable that it may, as it is perfectly certain that it could be greatly reduced by the more general use of labour-saving appliances.

There is so much difference of statement, and apparently of experience, in reference to the future influence of foreign competition on the growing of cereals in England, that it is next to impossible to disinter from the mass of evidence given on one side or the other, such *data* as will lead to a really sound and trustworthy conclusion. That wheat can be grown in the United States and Canada much more cheaply than in Western Europe, goes without saying. The reasons are sufficiently obvious. The average rent of land in the United States is calculated at about 8s. per acre, against 20s. to 30s. in the United Kingdom. Taxation is generally much lighter there than with us, and labour-saving appliances are employed much more extensively. The importance of this latter circumstance is perhaps not by any means so generally appreciated as it should be. The greater average size of the holdings in America obviously allows of the application of agricultural machines to a greater extent than in countries such as England, France, and Germany, where the holdings are generally very much smaller. The reaping-machine, which accomplishes the work of twenty men using the sickle, is universally adopted in America, but it is far from being so in England. Hence it has been calculated that if the labourer who tends the reaping-machine in America is paid three times as much as an English farm labourer (although the difference is by no means so great as this), "there is clearly room to save a third of twenty, or say six out of every seven pounds paid for his harvest by the English farmer who does not employ a machine." In the United Kingdom the average size of three-fourths of the holdings is fifty acres and under. It may be taken for granted that in more than one half of these cases no reaping machines are employed, first, because the English

farmer does not realise the full extent of the economy which they effect, and, secondly, because if he did realise it, he is seldom in a position to afford the outlay which such an implement would involve. Much would be gained if it were possible to apply labour-saving machinery more largely to agricultural operations, not in England alone, but in all European countries, though the gain would manifestly be less than in countries like the United States, where labour is so much more costly. But while the American farmer has a considerable advantage over his English *confrere* in respect of rent, taxes, and labour-saving appliances, his superiority in other matters is by no means so obvious. His average yield for a given area is considerably under that of the English farmer, who enjoys the most prolific wheat-growing soil in the world, and if he wants to borrow money, as he generally does, for his tools, implements, and stock, he can only do so upon terms very much higher than those which the English agriculturist can readily command. Hence the condition of things which Sir James Caird recently described as prevailing in Dakota. "The farmers are nearly bankrupt, and having to sell their wheat in that distant region at 1s. 6d. to 2s. per bushel, the poor fellows are utterly down."[1] Hence, also, a steady diversion of labour from farming to manufacturing pursuits, as established by the fact that between 1870 and 1880, the increase in the former was only 29·5 per cent., as compared with 41·7 per cent. in the latter. It was, indeed, recently pointed out,[2] that while, under ordinary circumstances, American agriculture should attract 2,300,000 persons in the ten years ending in 1890, farming was becoming so much less profitable that the number going into it in that period was calculated not to exceed 1,150,000. The great secret of economical farming, like that of economical manufacturing industry, is found to lie

[1] *The Times*, February 1885.
[2] *New York Bulletin*, February 188

in production on a large scale. On such a farm as the Great Canadian Bell farm of 100 square miles, wheat is said to be produced with a profit at 11s. 2d. per quarter, and this wheat can be delivered in Liverpool at the rate of freight current in 1884, to pay 8 per cent. on the capital invested in its production, so long as the price does not fall below 23s. per quarter.[1] But it would be an egregious mistake to suppose that this is the average cost of producing wheat in either Canada or the United States; and the price of wheat, like that of every other commodity, must be determined, not by the best, but by the very worst conditions under which it can be produced with any adequate margin of profit.

The tendency of American agriculture has perhaps gone too much in the direction of growing cereals within the last few years. There is a probability that, unless prices take a rise, a considerable quantity of land will be thrown out of wheat cultivation, but even in that case English agriculturists would have but little ground for hope, seeing that other countries are following the same bent as America, and produce much more wheat than they can consume.[2]

[2] *Production and Consumption of Grain per head of the Population in different Countries.*

| | Production. | Consumption. | Surplus. | Deficiency. |
|---|---|---|---|---|
| | Bushels. | Bushels. | Bushels. | Bushels. |
| Austria | 14.35 | 13.57 | ... | .78 |
| Denmark | 36.80 | 30.83 | ... | 5.97 |
| France | 19.94 | 24.02 | 4.08 | ... |
| Germany | 21.15 | 23.71 | 2.56 | ... |
| Great Britain | 11.90 | 20.02 | 8.12 | ... |
| Holland | 12.50 | 16.25 | 3.75 | ... |
| Italy | 9.45 | 9.62 | .17 | ... |
| Russia | 20.22 | 17.97 | .... | 2.25 |
| Spain | 17.98 | 17.68 | ... | .30 |
| Europe | 16.50 | 17.66 | 1.16 | ... |
| Canada | 40.30 | 38.11 | ... | 2.19 |
| United States | 48.10 | 40.66 | ... | 7.44 |

[1] Dr. Edmund's letter to *The Times* on Canadian wheat-growing.

The competition from which English agriculture suffers so much is not, however, confined either to America or India, nor would it be likely to cease even if these two sources of supply were entirely cut off. The Danubian principalities have within recent years greatly widened their commerce in agricultural products, and so also of Hungary and Russia. During 1883, the average price of wheat f.o.b. at Galatz, on the Danube, was 30s. 9d. per quarter, and cargoes were carried thence to England at 2s. 9d. per quarter, making the price at English ports only 33s. 6d. per quarter. This is a decline of 3s. 3d. per quarter on the lowest price of 1879. Flour, again, cost, in 1883, 12s. 6d. per cwt. f.o.b. at Galatz, and oats only 13s. 10d. per quarter.

It seems to be the manifest destiny of England to gradually diminish her production of bread-stuffs. Only a very cursory examination of the statistics of her food supplies is required to support this conclusion. It was estimated by Porter that in 1810 only 600,000 of the inhabitants of this country were fed upon foreign wheat. From 1841 to 1844 the number so fed was about two millions; and now the proportion dependent upon foreign wheat is practically one half of the whole population.

But while there is no reasonable prospect of English farmers ever again realising 80s. or even 60s. per quarter for their wheat, they may yet, by judicious husbandry, greatly ameliorate their recent and present circumstances. It is indeed very doubtful whether the British farmer has hitherto made the best of his resources. He has many considerations in his favour, notwithstanding the undoubted disadvantages already referred to. He has perhaps the most prolific soil in the world, and this is no slight gain. Nowhere else can land be found to yield an average crop of 25 to 30 bushels to the acre. Most countries would be glad if they realised half that average. Nor does he

pay a much higher rent than the average of European countries. It has been calculated that the average rental paid for agricultural land in England is now from 20s. to 30s. per acre, as compared with 24s. in France, 30s. in Belgium, 30s. in Holland, and 24s. in Denmark. This, however, while it is a fact not to be lost sight of, has less effect upon our agriculturists than their enforced competition with Russia, where land is estimated to cost only 2s., and the United States, where it is computed at 8s. per acre.[1]

Again, it is an undisputed and indisputable fact that, apart from cereals, the British farmer, if he has to bear greater burdens, gets a higher average price for his products than are obtained in any other country. It would naturally be expected that he would thus be stimulated to undertake the production of such commodities as return the highest profits, and let cereals alone. But this is not yet so. He still grows nearly 200 million cwt. of corn, against only 25 million cwt. of animal food, and 80 million cwt. of crops wherewith to feed his cattle. It even appears to be doubtful whether he has not diminished his supply of animal food within recent years. We find, at any rate, that a recent statement, compiled by Sir Joseph Pease, shows that between 1878 and 1883 the home supply of beef and mutton (not including Ireland) decreased from 14,076,388 cwt. to 13,626,226 cwt., while the foreign importations increased from 2,077,693 cwt. to 3,734,751 cwt. In other words, the percentage of British meat fell from 88.37 per cent. to 80.21 per cent. of the whole, concurrently with an increase in the receipts of foreign meat from 11.63 per cent. to 19.79 per cent. of the whole. On this showing, therefore, it would appear that England has not increased her production of cattle, while she has greatly

[1] These figures are given on the authority of Mulhall's "Dictionary of Statistics."

reduced her production of cereals.[1] Cattle disease has no doubt had much to do with the former fact.

Is the typical British farmer, in view of the considerations just stated, a subject for pity or a subject for blame? It would not be difficult to show that there is still, under capable and scientific administration, a great future before John Bull. Some considerable quantity of wheat must always be grown, in order that there may be straw at command; but the future of British farming will not run on all fours with cereal cultivation. The British farmer must endeavour to dispossess of the market at his door the enormous quantities of dairy produce now poured in upon us from the Continent. *That* he can easily do if he wills it. He should endeavour to follow American examples by making a more extensive use of machinery. It is probable that by this means he could dispense with 10 to 15 per cent. of the number of hands that he now employs. The taxation which now so heavily oppresses him must be the affair of Parliament; and there is already some indication of a desire to make the incidence of such burdens more easy for the tenant. It certainly does seem grossly anomalous that when the cost of living all round has been reduced to the general community, the farmer should be oppressed by such enormously increased burdens—burdens that often compel him to pay shillings where he formerly paid pence. On the other hand, it must not be forgotten that the farmer is not without some compensation. If he pays more wages per man, he employs much fewer men.[2] If he pays heavier rates, he has the advantage of better roads, not to speak of railway facilities, which bring him within easy reach of large and certain markets not formerly available.

[1] This statement is somewhat qualified by the fact, that the home supply for 1884 is stated on the same authority to have been 14,261,548 cwt., or an increase of 635,322 cwt. on the preceding year.

[2] The total number of persons employed in agriculture in England was 2,010,454 in 1861, and 1,383,184 in 1881.

But if the recent plight of the tenant-farmer has been bad, that of the landowner has not been appreciably better. What is the annual value of the agricultural land in England? Let Sir James Caird supply the answer. In 1878, according to this authority, the annual rental of agricultural land in the United Kingdom, excluding mineral rents, and all holdings under 10 acres, was £69,172,000, of which £51,000,000 belonged to England and Wales, £7,600,000 to Scotland, and £9,900,000 to Ireland. The capital value of this annual rental is estimated at 2000 millions. But it is not to be supposed that this latter sum represents the real wealth of the landed classes. There never probably was a landed interest, or, for the matter of that, any other capitalist interest, that was not more or less involved in debt. This is a condition common to all, irrespective of the size of their holdings. It is to be found at the root of the evils which environ the ryots of India, the metayers of Italy, the peasant proprietors of France and Germany, the freeholders of Australia and the United States, as well as the great landed interest of our own country. The actual amount of the indebtedness of any class is always more or less difficult to ascertain. But if Mr. A. Arnold's calculations are correct, the English landed interest are indebted to the extent of not less than 409 millions sterling, which, at 5 per cent. interest, would absorb £20,000,000 a year, or nearly a third of their aggregate annual rentals. It may, indeed, be that at the present time the proportion of the annual value of land in the United Kingdom so applied is greater even than this. The reduction in agricultural rents that has taken place within recent years has been enormous. The President of the Land Surveyors' Institute stated in November, 1884, that the average reduction in Hants had been 59.2 per cent.; in Worcester 51 per cent.; and in Northampton 40 per cent. Mr. A. Arnold mentions the case of an Essex tenant-farmer who recently took a

lease of a farm adjoining his own that used to let for £300 a year on lease on the following extraordinary terms—viz., no rent for the first year, £75 a year for the following three years, and £150 a year for the remainder of the term. If this movement has gone as far elsewhere as in the instances just cited, it is within the bounds of possibility that the landed interest, after defraying their annual mortgage obligations, may find themselves left with a nett annual revenue of less than 20 millions sterling, instead of the 69 millions above mentioned.

The very great difference that a good or a bad harvest is calculated to produce upon the general prosperity of a country may be illustrated by the experience of the United States. The following figures show the variations in the value of different crops grown in that country between 1871 and 1881:—

| Year. | Maize. | | Barley. | | Potatoes. | |
|---|---|---|---|---|---|---|
| | Average Yield per Acre. | Average Value of Yield per Acre. | Average Yield per Acre. | Average Value of Yield per Acre. | Average Yield per Acre. | Average Value of Yield per Acre. |
| | Bushels. | Dols. Cents. | Bushels. | Dols. Cents | Bushels. | Dols. Cents. |
| 1871 . . . | 30.5 | 12.26 | 22.7 | 18.30 | 98.6 | 58.83 |
| 1875 . . . | 27.7 | 10.86 | 20.6 | 16.73 | 110.5 | 48.06 |
| 1878 . . . | 31.4 | 7.74 | 23.6 | 13.67 | 69.9 | 41.14 |
| 1879 . . . | 28.7 | 9.50 | 24.0 | 14.11 | 98.9 | 43.09 |
| 1880 . . . | 25.8 | 9.28 | 24.5 | 16.32 | 91.0 | 44.06 |
| 1881 . . . | 24.7 | 11.47 | 20.9 | 17.21 | 53.5 | 48.63 |

Now it will be observed that in respect of the first item—that of maize—there is a difference of 4.52 dols., or 58 per cent., between the best and the worst years in the foregoing series. If that difference is applied to the 16,331,000 acres under maize crops in 1881, it would be found to make a difference, in round figures, of about *sixteen millions sterling* in the item of maize crops alone. And so it is, *mutatis mutandis*, with all other crops.

The total area under cultivation in the United States in 1880 is stated at 223 million acres; and it is obvious that if there is a difference of only one dollar per acre in the value of the crops, as between one year and another, it will represent a loss or gain of not less than 46½ million pounds sterling.

As to the future of British agriculture, there are many who regard it with blank despair. They say it is impossible to compete with the virgin lands of the United States, Canada, and our Australian Colonies, with only an ocean freight of about 1s. per bushel, more or less, between them and the great centres of English consumption. They point to the fact that in England we have not only to pay an average rental of 25s. to 30s. per acre for agricultural land, but we are handicapped by taxes to the extent of something like 5s. per acre more, while in the newer countries farmers have this land for next to nothing, and pay only nominal taxes. Again, they urge, that in order to any degree of success in English agriculture, a large sum, varying from 50 to 100 per cent. of the actual rental, must be expended in manures, attention must be paid to the rotation of crops, and the husbandry must be of a thoroughly efficient character, while the American farmer, with his boundless tracts of fertile soil, can afford to leave the straw to rot in the ground, no other manure being necessary, nor any rotation of crops, so long as the land retains its primitive fertility; then, when the land becomes exhausted, which it does in a few years, it can be abandoned in favour of another allotment of the same virgin soil. It is said to be the same with the breeding of cattle. What, cry the pessimists, can an English agriculturist do against the cattle ranches of Nevada, California, and Texas, where ninety calves are obtained from every hundred cows and heifers above two years old; where cattle breeders can undersell English agriculturists in their own markets, and still pay from 50 to 60 per cent. per annum *from the cattle alone*, in

addition to the accumulating value of the land, and where the cattle can roam at will over natural pasture of boundless extent, that is held for next to nothing.

Is there, then, no hope for the future? Must English agriculturists resign themselves to the supremacy of these distant lands as to an inevitable doom? This, happily, is not the verdict pronounced by those best qualified to gauge the current of events. Sir James Caird opines that the general principle of the system under which British agriculture has attained pre-eminence "will continue to hold its ground." He deprecates the proposal to reimpose a protective duty of 5s. on imported corn, remarking that "Our vicinity to the best markets of the world, in our various centres of population, not now limited to London, gives us a natural protection much higher than this," and he finally asks, "Is it to be supposed that the British farmer, with his inherited and acquired skill, with the command of labour at a much lower price than that in America, and when legal security shall be given him for his invested capital, would, with this advantage, by which he starts on equal terms, be unable to meet his foreign competitor?"[1] There are two circumstances that are likely, and that, too, probably before very long, to affect our imports of American wheat. The first point is that of the increased cost of cultivation, consequent upon the exhaustion of the virgin lands within easy access; the second, that of the probable increase of railway freights, consequent upon the general improvement of trade, and the cessation of the tariff war. It is also on the cards that the cost of cultivation may be affected by the course of the labour market, which has been unusually favourable to agricultural operations for some years past.

As for the prospects of cattle-breeding, they are much more promising and easily appreciable than those of cereal cultivation. To begin with, the supply of cattle

[1] Statistical Society's Journal for 1881."

is far from keeping pace with the world's population. Human beings have a tendency to multiply at a much greater rate than the flocks and herds upon which they principally feed. Hence it has been calculated that while there are 1300 or 1400 millions of human beings upon the earth, the supply of horned cattle, including both wild and domestic animals, does not exceed 250 million head. Australia has hitherto been an exception to the rule just stated, but not so with the United States. According to the census of 1880 the cattle of the latter country numbered 40 millions, which are calculated to yield an annual supply equal to a little over 41 lbs. of beef per head of the population. This is actually considerably under the present average consumption of the inhabitants of the United States, and hence the inference that "America is consuming the entire natural produce of her herds, as well as her steer beeves."[1] It is true that this conclusion is not reflected in nor justified by the statistics of our imports of cattle meat from the United States, seeing that within the last few years these have enormously increased. But this may only mean that, before long, home necessities may become so urgent as to compel a cessation of this rapidly-developed trade.[2] And it is certain, in any case, that cattle will not permanently, nor for any great length of time, be reared in America so cheaply as they have been. "It is a question," says Sir. Thomas Brassey, "whether the United States Government will not lay a charge for pasturage on the public lands, when the trade has been developed, and is known to be lucrative to keepers of stock."[3] Mr. Tait speaks more definitely when he says that "within a very few years the majority of the watered lands in Texas will be converted to agriculture and sold at immensely

1 "The Cattle Fields of the Far West," by J. S. Tait, p. 25.
2 Between 1875 and 1883 our imports from America had fully doubled.
3 "Foreign Work and English Wages," p. 377.

increased prices." [1] It is scarcely necessary to add that every addition to the cost of growing cattle in America, however slight, is likely to tell in favour of the English farmer. Beef is not likely to be supplied in any very considerable quantity from other sources—at least not for a long time to come. Canada is actually suffering from a scarcity of cattle, of which, excluding working oxen, there are only about three millions in the whole country, or an average of less than one per head of the population. Australia can send us plenty of mutton, but of beef her supplies are not likely to be superabundant for years to come, and the distance will always create a natural barrier against the Antipodes.

Within the last few years we have heard much concerning the capabilities of India for supplying England with wheat. That a good deal is possible in this direction would appear to be fully evident from what has already been done, our imports of Indian wheat having been multiplied more than twelve times between 1878 and 1884. From India, however, English agriculturists would appear to have less to fear than from America. It must not be forgotten that the population of India is already, in many provinces, more dense than that of our own country, and that it subsists entirely on home-grown produce, while the cost of freight is a much more serious item than in the case of either the United States or Canada.

The resources of the Dominion of Canada are so vast that they have not yet been fairly estimated. The future is likely to see a much larger importation of Canadian bread-stuffs than we have hitherto received. Over a great part of the great Canadian North-West, there exists a so-called "fertile belt," where the average crops raised are as heavy as those of the United Kingdom; and in Canada as a whole the yield per acre averages nearly

[1] "Cattle Fields of the Far West."

100 per cent. more than in the United States. But Canada labours under the disadvantages of a limited population and sparsely-developed communications. Until these wants have been supplied, the export trade of the Dominion can scarcely be extended in a degree commensurate with its resources of production and supply.

The cloud that has so long hung over English agriculture is not, therefore, without its silver lining. The crisis is not one that requires heroic remedies. The proposals to impose duties on corn and pay premiums for home cultivation of wheat are alike unnecessary and unsound. "The old order changeth, yielding place to new," and in accommodating themselves to the change, English agriculturists have had serious and exceptional difficulties to contend with. But cultivable land is the one exchangeable article that admits of no increase, and the ultimate result of the process of readjustment now in progress is little likely to be attended with the disasters and demoralisation to which so many have accustomed themselves to look forward.

## CHAPTER V.

### *PEASANT PROPRIETORSHIPS.*

"A nation which has an extensive territory to cultivate, and facilities for carrying on a large commerce in raw materials, should be careful not to stimulate the employment of capital and labour in manufactures, and in the production of articles of luxury, to the prejudice of agriculture; because, before all things, a country should be well peopled by prosperous cultivators."—QUESNAY.

THE notion that the general prosperity of the country would be materially promoted by the extension of the system of peasant proprietary is one that appears to receive an increasing amount of encouragement and support. Mr. Chamberlain has announced himself an advocate of such a principle, and Parliament has recently been asked to lend its high sanction to a scheme for reducing the principle to practice. A bill has been introduced into the House of Commons, entitled "The Yeoman and Small Holdings Act, 1885," the professed object of which is to facilitate the acquisition of land by occupiers in England and Wales. This end is to be accomplished through the urban and rural sanitary authorities, who may, out of the moneys placed at their disposal by the Treasury, advance sums to tenants to enable them to purchase their holdings, subject to the limitation that no holding of more than 150 acres shall be so purchased, while the definition given of a small holding is "land not less than one acre, and not exceeding thirty acres in extent." It is proposed to give the local authority power to purchase, take on lease, sell, or exchange any

lands in their district for the purposes of the Act, and for such improvements as drainage, irrigation, clearing, and the like.

It is no part of the purpose of this work to criticise the details of any scheme put forward with a view to the creation or extension of a peasant proprietary. But the question of whether such a system tends to advance or retard the general well-being of a country, and the contingent problem of whether England would compare more or less favourably with other nations under the suggested change, are matters that come distinctly and immediately within the range of any inquiry into the conditions of her supremacy.

Inasmuch as the problem now presented for consideration is one that comes before us associated with the names of the greatest political economists, it is desirable at the outset to ascertain what political economy has to say as to its merits.

M'Culloch remarks that though, generally speaking, peasant proprietors are (in France) industrious and economical, "they are, at the same time, miserably poor, overwhelmed with debts, and strongly attached to routine practices. Many small proprietors rarely take butcher's meat, and are only too happy when they find an opportunity of eking out their narrow means by working at day-wages on the larger properties. Such proprietors are not nearly so well off as common labourers in England."[1]

Sismondi held very different views. "Wherever," he says, "we find peasant proprietors, we also find the comfort, security, confidence in the future, and independence, which assure at once happiness and virtue. . . . Of all cultivators he is the happiest, and at the same time the land nowhere occupies, and feeds amply, without becoming exhausted, so many inhabitants as where they are proprietors."[2]

Note XIX. on Smith's "Wealth of Nations
"Studies in Political Economy," Essay III.

John Stuart Mill, who has devoted the sixth and seventh chapters of his second book[1] to the consideration of this subject, is more disposed to take the views of Sismondi than those of M'Culloch. He conceives it to be established that there is "no necessary connection between present properties and an imperfect state of the arts of production;" that they are "favourable in quite as many respects as they are unfavourable to the most effective use of the powers of the soil; that no other existing state of agricultural economy has so beneficial an effect on the industry, the intelligence, the frugality and prudence of the population, nor tends on the whole so much to discourage an improvident increase of their numbers; and that no existing state is therefore on the whole so favourable, both to their moral and their physical welfare."

Professor Fawcett is less enthusiastically in favour of peasant properties than either Sismondi or Mill. He believes that whatever advantages can be attributed to peasant proprietorships, are "almost entirely due to the fact that the cultivator owns the soil which he tills;" that "great social advantages are derived from peasant proprietorships;" but that the economical advantages are by no means so obvious, even though "authorities seem unanimously to agree upon the great industry evinced by this class, who differ herein essentially from tenant-farmers."

The circumstances under which the land of England is held are in several important particulars unlike those which exist in any other country. The New Domesday Book showed that the thirty-three million acres forming the area of England and Wales were held by 972,836 persons. But of the total area, 5,386,913 acres, or more than 16 per cent., was held by 293 proprietors, while only 4,297,754 acres, or 13 per cent., was held by owners who had under 100 acres each. Again, of the 972,836

[1] "Principles of Political Economy."

owners of land in England and Wales, there are no less than 703,289 who own less than one acre each, their total holding being only 151,148 acres, or an average of one-fifth of an acre per head, while a single duke owns 30,000 acres more than the whole of these 703,289 persons.

The average rent of the land of England and Wales, according to the same authority, is, or was in 1875, £3, 0s. 2d. per acre. But there was an enormous difference between the *maxima* and the *minima* of the rent paid. The average rental of holdings under one acre was not less than £194, 14s. 1d. per acre; that of estates of 10,000 acres each and upwards £1, 6s. 8d. per acre. Between these two extremes the rent is generally in inverse proportion to the size of the estates. In the former case, where the average holding is about one-fifth of an acre, the rental represents, not the agricultural value, but the urban value of the land. In considering the average agricultural value, therefore, so far as light can be thrown upon it by Domesday Book, all holdings under one acre in extent may be disregarded. Having effected this process of elimination, we find that there remains 32,862,000 acres, which yield a total rental of £70,225,000, or an average of £2.1 per acre, while if we take only the 15 million acres that are held by owners of 2000 acres each and upwards, it comes out that the average rental is only about £1.5 per acre, or 12s. per acre under the general average of the land applied to purposes of agriculture.

It appears to be perfectly obvious, from a consideration of these figures, that the rack-rent of land in England is far from being realised, even when we make every reasonable allowance for the fact that a good deal of the land held by the large owners is not cultivated. This latter limitation, indeed, does not very largely affect the average value of land in England, where the proportion of moorland and forest is comparatively small; and it should be borne in mind, also, that the rent paid for a good moor

is sometimes as much as that for an equal extent of highly cultivated land. So far, then, as the figures go, they justify the conclusion that if the land were more generally subdivided, it would yield a larger average rental, which is only another way of saying that it might be made more productive.

The position occupied by British agriculturists in relation to the average size of their farms may have some additional light thrown upon it by comparing it with that of Germany, a country which is not only bordering on our own, but whose circumstances are in many respects identical. In making such a comparison, the first thing that strikes us is the very much greater prevalence of small holdings in Germany than in this country. According to statistics issued in 1882,[1] there were then 5,276,344 holders of land in Germany, which, divided into the 100 million acres under cultivation, would give an average of only 19 acres per holding. In the United Kingdom, during the same year, the total number of holdings was 1,173,724, and the average size of each holding was 43 acres. In Germany more than three-quarters, or exactly 76.62 of the whole number of holdings, were under 5 hectares or 12½ acres. In England nearly the same proportion of the whole number of holdings (73 per cent.) was under 1 acre.[2] In Germany 24,476 holdings were between 100 and 1000 hectares in extent; in England 51,090 holdings were between 100 and 1000 acres in size. Finally, in Germany only 515 holdings were above 1000 hectares in extent, while 10,888 were over 1000 acres in England.

There is, however, one point in regard to which England appears to have an undoubted superiority over Germany. Of the 73 per cent. of holdings in this country under one acre, it is probable that three-fourths at least will be held by cottagers, agricultural labourers,

[1] Report of Imperial Statistical Office, June 5th, 1882.

[2] These, however, would probably be mostly market gardens, &c.

and the like, who do not depend upon their holdings for their means of support, but employ them in aid of the subsistence derived from wages. In Germany, on the other hand, by far the greater majority depend absolutely upon what they can reap from their holdings. It is the opinion of experts that in Germany 12½ acres of land are necessary to yield, for a family of the average number of five, the corn necessary for subsistence and for seed. If this is so, then as 76.62 of the holdings in Germany are under that acreage, and as 58.02 of that figure again are under five acres, it is tolerably clear that the larger population dependent upon them must be engaged in a constant struggle for existence. This struggle is rendered all the more serious and intolerable by the fact that as more than one half the holders of land in Germany are unable to grow sufficient corn for their own needs, they have to purchase what is required to make up the necessary supply; and seeing that corn is burdened with an import duty of 1s. 6d per cwt., its cost, whether home-grown or imported, is artificially increased to the German consumer, while the English consumer has his breadstuffs brought to his door absolutely free. Now, if Germany was in the position of being able to grow sufficient corn to satisfy all her requirements, this would probably be a minor evil, or at any rate an evil the most serious effects of which would be but little felt. But so far from being so situated, Germany has during the last ten years imported grain and flour to the extent of from 37 to 75 millions of cwts. per annum, being on the average considerably over one cwt. per head of the population, and her imports of wheat and rye—her principal breadstuffs—in 1882 were as much as 16 per cent. of the whole home production.[1]

With reference to France, the condition of the peasant proprietors has been graphically described by Lady

[1] The home production was 8,923,000 tons; the imports, 1,345,000 tons.

Verney.[1] "They are," she says, "frugal almost to a fault, eating little but rye bread, which often brings on illnesses peculiar to itself, *des etourdissements*, *des fièvres*, when touched by ergot. They do not drink their own wine, and only the butter-milk from their own cows. The *morcellement* of land is so great, and the mortgages on it so heavy, that the peasants cannot live on the produce of the plots. In a bad year they are reduced to starvation. . . . The weary look of the children is sad to see. . . . In general the sickly look of the women, and even of the men in the fields, was very striking. They are underfed and overworked." A farm of 120 to 150 acres is regarded as a large property. The hiring price of land is from 30s. to 35s. per acre for the best, the proprietor sharing equally with the hirer the produce of the vines which grow between the plots. The amount of work done by the women is enormous.

The advocates of the establishment in England of a system of peasant proprietorship can certainly not draw much encouragement from the "modern instance" of India, where such a system is largely pursued. In the united provinces of the North-West and Oudh, the average holdings do not exceed 7.78 acres, the family usually comprising about four persons. Some, of course, have larger holdings, but the majority have still smaller. The peasants who farm these holdings usually have their own plough-oxen, with which they cultivate the land. Their habits of life are industrious in the extreme, but their utmost industry fails to obtain for them more than a miserably hard fare, and their taxation is constantly increasing. They cannot afford to purchase the implements necessary to cultivate their fields and crops with efficiency and economy. Hence, it takes about ninety or more hands in India to produce a crop of wheat which in England, with all the modern appliances of husbandry at command, can be cultivated with only four.[2] This is the

[1] *Contemporary Review*, Jan. 1882.

[2] "Our Difficulties and Wants in India," p. 131.

great secret of whatever success attends English agriculture, and of the drawbacks attending that of India.

A work recently issued by a native of India[1] contains the best, and so far as I can judge, the most exact description of the condition of the inhabitants of that country, both agricultural and industrial, that I have yet seen. A more pitiful story of a constant and literally unavailing struggle with grinding poverty it would be difficult to imagine. About 60 per cent. of the whole population of the Central Provinces are stated to be either *asamis* (tenants), or *ryots* (labourers); this is more a distinction in name than in reality, since the *asamis* also work as labourers. Above these there are the *kashtkars* (farmers or cultivators), who number about 15 per cent. of the population, and higher still in the scale are the *zemindars* (land proprietors) and *pattidars* (sub-proprietors), who are about 5 per cent.

The *asamis* of India very much correspond in character with the metayers of Italy and the cottiers of Ireland. Their position is scarcely so well secured and satisfactory as that of the peasant proprietors of France and some other countries. Taking a lease of a small piece of land from the *zemindars*, they are said to work day and night, as well as their wives and children. "Notwithstanding this hard and joint labour, the poor men rarely have a full meal once in the twenty-four hours. Though their fields produce everything, yet they cannot satisfy their hunger except with the coarsest and cheapest grain of the season. Every year the rent is raised more or less. . . . Lands which in Nawabi time only cost one rupee are now from four to eight rupees." The condition of a common labourer does not appear to be any better; it does not seem as if it could be worse. For ploughing, building, thatching houses, &c., he only receives about three lbs. of grain per day, while lads and women receive

[1] "Our Difficulties and Wants in the Path of the Progress of India," by Syed Mohammad Hossain of Lucknow.

about two lbs. for a full day's wages. The wages of the common labourer are stated at about 2d. per day.

It is not without interest to compare the condition of the people of India with that of the much newer British acquisition of Burma. Part of that province was acquired in 1826, but the whole of it did not come under British rule until 1852. By the Land and Revenue Act of 1876, the force of law was given to the customary modes of acquisition found current when the province came under British rule. Under that Act ownership of land may be acquired either by a twelve years' continuous squatting occupation, or by a specific grant from the State. The first of these modes of acquisition is most common in tracts which are in an advanced state of cultivation; the latter is commonly resorted to by new-comers in the more remote tracts.

Of the total area of British Burma, 3,450,000 acres are held on a tenure direct from the Government. The average area of each estate so held is only 7.05 acres, the average assessment being 11.81 rupees per holding, and the average rate of revenue per acre varying from 5 rupees to 2 annas per acre. The calculated net profit per acre varies from 2½ to 18 rupees (5s. to 36s.), so that the average income from each holding will vary from £1, 15s. to £12, 12s.[1] When to these figures we add that 2,562,000, or 70 per cent. of the whole population, live by agriculture, the general condition of the people may be appreciated. It must, moreover, be remembered that the burden of taxation in Burma, as in all other places that have come under British rule, has been steadily increasing. The total imperial and local revenue from taxation has increased from a million and a half to three millions sterling between 1872 and 1883. During the same period, the population has increased by about a million, so that the incidence per

[1] In this calculation the rupee has been converted at its maximum exchange of 2s.

head has risen from 11s. 3¼d. to 16s. 5⅞d. within these few years. This augmentation of 45 per cent. would not be seriously felt in a European country, but the slightest addition to their already grievous burden of taxes weighs like a millstone round the necks of both the Indian and the Burmese peasantry.

The average rent of land per acre in British Burma, and the average produce of each description of crop in 1882, is set forth in the following statement:—

| Crop. | Average Rent per Acre. | | Average Produce per Acre in lbs. | Average Prices per maund of 80 lbs. | |
|---|---|---|---|---|---|
| | Rupees.[1] | Annas. | | Rupees. | Annas. |
| Rice | 3 | 9 | 1,351 | 3 | 0 |
| Other food-grains | 1 | 8 | ... | 4 | 0 |
| Oil seeds | 2 | 3 | 620 | 5 | 11 |
| Sugar | 2 | 12 | 5,542 | 7 | 13 |
| Cotton | 2 | 1 | 414 | 9 | 10 |
| Indigo | 2 | 3 | 229 | 7 | 0 |
| Tobacco | 6 | 15 | 731 | 17 | 1 |
| Cocoa nuts | 3 | 2 | ... | — | |
| Vegetables | 2 | 0 | 836 | — | |
| Betel-leaf | 13 | 8 | 3,764 | — | |
| Plantains | 1 | 14 | 1,510 | — | |
| Onions | 1 | 2 | 4,130 | — | |

The price of common labour in British Burma is stated to average 10 annas per day[2] (about 1s.), which is considerably above that of India.

In China, peasant proprietorship is carried out to an even larger extent than in India. Most of the land of the celestial empire is held by peasant families, each member of which has his allotted share, and takes part in the tillage. If the labour of the family is not sufficient for the work to be done, they get their neighbours to assist them, on what is called the "huan kung" or "morrowing" principle—*i.e.*, "you work for us to-day, and we will work for you to-morrow." In the rare

[1] 16 annas = 1 rupee = 1s. 9d. to 2s. according to price.

[2] Report of the Administration of British Burma during 1882-3.

event of a labourer being hired, he gets threepence a day and his food. The Chinese peasantry chiefly live on a vegetable diet. Beef is only used as food by the Mohammedans; there are whole provinces without sheep, and goats are far from numerous. In their own special way, however, the Chinese are good agriculturists. No people have attained a higher skill in making the most of the land. "The farmers," we are told, "will ascend or descend by long ladders to fields situated on ledges or precipices otherwise inaccessible, and actually dare mountain torrents and waterfalls to catch and use as soil the drift washed down the steep hills."[1] Hence the terrace cultivation of the Chinese is rather famous, and so also is the variety of cultivated plants and trees which they grow successfully, and a list of sixty-five of which is given by the authority from whom we have just quoted.

Japan, like China and India, has a population almost exclusively agricultural, and yet of the total area of 160,000 square miles, little more than one-tenth is believed to be under cultivation. Of this one-tenth again, nearly two-thirds are rice-lands, which produce on an average twenty bushels per acre, giving, therefore, for an ordinary year a crop of about 136 million bushels. Of this quantity two-thirds are retained for home consumption, whence it appears that the average annual consumption of rice per head of the population is 243 lbs., or 0.66 lb. per day.[2] During the five years ending 1875 the price of rice was as low as 0.27d. per lb. in the north of Japan, and as high as 0.85d. in the south, the average price for the whole country being about 0.65d., or nearly three farthings per lb. Until lately, rice was generally used in Japan for the payment of wages, &c. —in short, as the standard of value. Even now the

[1] Her Majesty's Consular Reports, No. 7, 1883.

[2] These figures were communicated by the Japanese Minister of Finance to H.M.'s Consul at Yeddo, and they may therefore be regarded as being as reliable as any statistics of that country can claim to be.

land-tax is paid to a considerable extent in this commodity; and from it also is brewed saké, which is the universal drink of Japan.

There are very few countries where land is more subdivided than in Italy, and there is no country in which the metayer system of paying the landlord by a specified part of the crop is carried to a larger extent. The metayers appear, however, to be able to make a better living than ordinary labourers, and in some cases they are even able to save money. This may appear to be all the more remarkable when it is remembered that the farms or holdings do not exceed an average of ten to twelve hectares in extent. In Tuscany out of 26,772 owners of land rated in 1880, no less than 19,853 were under 100 lire (£4, 3s. 4d.) of rateable income, and 5883 more were between that sum and 1000 lire (£41, 13s. 4d.)

The economical condition of two typical families of metayers in Tuscany is shown very clearly in a recent official report drawn up by the Marquis Albèrgotti dei Guidici, who states that on a farm in the Commune of Arezzo, about twenty-five hectares in extent, and worked by five men and two women, with five children who also did more or less, the total products amounted to a sum of £170, of which one-half, or £85, belonged to the metayer. From this latter sum fell to be deducted the cost of the food consumed, amounting to a total of £49, so that the remainder left for clothing and all other items of expenditure was £36, or £3 for each person on the farm, children included.

The same authority gives the details of a second case of a metayer farm of twelve hectares on a hill, six hectares being under cultivation, and the remaining six being wood and barren land. Here the family was composed of three men, two women, and five children. The value of the products of the farm amounted to £103, of which one-half was taken by the metayer. From the

latter sum £35, 3s. must be deducted for the cost of the food consumed, leaving £16, 7s. for clothing and other expenses, or an average of about £1, 13s. for each member of the family.

It will readily be understood that these results are not attained without much industry. On the small area of six hectares under cultivation, thirteen different varieties of agricultural products are raised, of which the following account is given as the metayer's share:—

| | | | Total Value |
|---|---|---|---|
| | | *lire.* | *lire.* |
| Wheat | 17.50 hectols. at | 22.50 | 393.75 |
| Indian Corn | 3.50 „ | 13.90 | 40.65 |
| Kidney Beans | 0.12 „ | 32.70 | 3.92 |
| Wine | 4.50 „ | 35.00 | 157.50 |
| Vinello | 3.50 „ | 4.00 | 14.00 |
| Oil | 3.41 „ | 85.00 | 289.85 |
| Fruit | ... | ... | 0.70 |
| Flax and hemp | 10.00 kilos. at | 0.85 | 8.50 |
| Poultry | ... | ... | 15.00 |
| Silkworms | 15.00 kilos. at | 4.50 | 67.50 |
| Profits from cattle | ... | ... | 200.00 |
| Wool | 6.00 kilos. at | 2.70 | 16.20 |
| Cheese | 10.00 „ | 1.35 | 13.50 |
| Total, | | | 1235.27 |

The custom in Italy is to lease small farms for three, six, or nine years. Large farms are often leased for twelve years. Thirty-two per cent. of the whole population is engaged in agriculture. The average wage of a common labourer is stated to be about 1 fr. per day. "They will walk forty or fifty miles with a view to engage in the lowest and foulest work, such as rice cleaning, in order to gain 30 fr. by forty days' labour in the heat of summer, provided only with the bread which they can carry or procure in the neighbourhood." In Novara the agriculturist is said to "contend with every species of privation from the cradle to the grave." His infancy is passed in the care of strangers, or rolling in the mud; at seven years of age he receives a few months per year of

elementary teaching, and passes the remainder in tending goats; at ten he already earns some small wages; at twelve he is regularly employed; and at fifteen he undertakes the hardest farm work. The men rise in summer at two, and in winter at four o'clock. In the former season they work from twelve to fourteen hours per day. Girls take part in field work at fourteen or fifteen. At night they catch frogs and fishes in the marshes, and steal corn or wood.[1]

Whatever may be the hardships of the Italian metayer's lot, that of the ordinary agricultural labourer is infinitely worse. We have seen that the metayer and his family on the smaller of the two farms referred to, have a margin of about £1, 13s. per member for other expenditure than that required for food, which costs an average of £3, 10s. per head per annum. But in the case of the ordinary agricultural labourer even this small margin is not found to exist. The Marquis Albergotti makes the following estimate of the average annual income of the agricultural labourer in Tuscany in 1880:—

| | Total lire. |
|---|---|
| 180 days work at 1 lire | 180 |
| Woman's earnings for 20 days at harvest and vintage, with food | 20 |
| Woman's earnings at straw-hat plaiting | 12 |
| Sundries | 30 |
| Total | 242 |

Against this the same authority estimates the average cost of food and lodging at 369 lire, or £15, 10s. a year—being an average of £3, 2s. for each member of the family of five. It has been remarked, with reference to this computation, that it is considered by some authorities to be too darkly shaded. The labourers in winter look for employment on railway and other work outside their commune, at which they may earn from 2 or 3 lire per day, and with this assistance, the little wages they receive

[1] Consular Reports for 1883.

at harvest time, and by gathering chestnuts in the mountain districts—for which they are paid in kind with a little money—they are able to make both ends meet.

Having now considered the circumstances of different countries with regard to the arrangements under which the land is distributed, it is desirable to endeavour to ascertain whether England would be more benefited by a continuance of her present system of land distribution, or by a more general system of peasant proprietary—whether, in short, England's supremacy is likely to be promoted or retarded by the maintenance of the *status quo*.

In a previous chapter it has been shown that there are in the United Kingdom about 1,170,000 owners of land, of whom, however, 10,888 owners hold over 51 millions of acres, or 70 per cent. of the whole. To this we may now add, that Mr. Caird has calculated that 75 per cent. of the land of England is laid out in farms that average about 165 acres. A still more striking way of stating the case is to say that less than 5 million acres of the whole of the land of England, amounting to about 73 million acres, is in holdings of less than 50 acres.

The advocates of a peasant proprietary, including the Land Nationalisation League, are accustomed to rest the theoretical part of their case on Arthur Young's axiom: "Give a man secure possession of a bleak rock, and he will turn it into a garden; give him a nine years' lease of a garden, and he converts it into a desert."

Has this principle been confirmed by the experience of English agriculture? There are in Great Britain about 560,000 farmers, of whom probably not a twentieth part are the owners of the land they cultivate. Have they, as a consequence of this fact, neglected their duty to the soil? Is it not notorious that, by virtue of superior husbandry, the soil of England, not naturally the best, has been made the most prolific in the world?

The truth is that agriculture, as we have elsewhere shown, is most efficient where it is carried on with the

maximum of skill and capital. And neither of these is at the disposal of the average peasant. If it is correct to assume that it requires an average of £10 per acre to work a farm successfully, we come to this, that every peasant who has the opportunity of acquiring a ten-acre lot would require a capital of £100 to work it. But how is this capital to be acquired by persons who are invariably living on the very verge of destitution? "Unless he has capital of his own, he must borrow it. When he is a systematic borrower he will cease to be a free proprietor. And when financial rings hold under mortgages the soil of England, we shall simply have established for the landlords, whom we see, and who (in England) live on their estates, and usually take some pride in them, invisible money-dealers, living in distant cities. What is there in all this to transform industry, reorganise our social system, and offer a millennium to the 35 millions of these islands?"[1]

That there are great social advantages in peasant proprietorship few would be disposed to deny. That the land so held could be made to yield more than it does now is possible, but not very probable. It is certain that it could not be made more prolific with the same amount of labour, which, after all, is the true test to apply. Let a thousand acres of land be held as a single farm, and it will be cultivated on scientific principles, with all the best and most efficient labour-saving appliances at command. Split it up into 100 holdings of 10 acres each, and manual labour will take the place of mechanical aids to husbandry at a very serious economic sacrifice.

It is claimed that peasant proprietors get more out of the soil than when it is farmed on a large scale. Very likely. Spade husbandry is, as everybody knows, the best suited to secure large crops. But if spade husbandry were to be applied to the cultivation of the land generally, we should simply be throwing back civilisation a thousand

[1] "Remedies for Social Distress," by Frederic Harrison.

years. It is not the absolute yield, but the *price* at which it is realised, that we have to consider; and it is obvious that if the soil of England were made to produce twice the quantity of breadstuffs it does now, at three or four times the present cost, neither the country as a whole, nor any component part of it, would be benefited.

The circumstances of England, as an industrial nation, are essentially different from those of any other country. In most other countries it is agriculture, but in England it is manufactures that determine the current rate of wages, and the consequent command of the necessaries and amenities of life. It is obvious, therefore, that in considering the comparative and relative advantages of peasant proprietorship, we have to compare the peasant proprietor, not with the ordinary agricultural labourer, but with the much larger body who follow manual labour in our mines and factories. It will scarcely be pretended, we think, that the farmer who cultivates his 10 or 20 acres of ground, with spade labour, is likely, with the values of agricultural products at their existing level, to enjoy any substantial advantages over the latter. In countries where there are few manufacturing industries available, as India, China, Italy, and even Russia, the peasant proprietor, or the metayer, may be better off than the mere labourer who has only 3d. or, at the most, 1s. per day between him and starvation. But it is not so with a country like England, where the small proprietor cannot possibly afford to employ outside labour, and where all agricultural products are offered at his very door for less than he can raise them, if the ordinary market value of his labour is allowed for. Other countries may afford to disregard small economies, and may tolerate a system which requires that three men shall only furnish the labour of one. England cannot do this. Economy of labour is the very breath of her nostrils; such economy is incompatible with a large system of peasant proprietary; therefore it is fair to conclude that peasant proprietorships

are not suited to England. This conclusion is not, of course, opposed to the principle of occupying ownership. With Mr. Frederic Harrison's view that to occupying ownership, without legal limitation on the extent of the holding, we must ultimately come, many of us will unhesitatingly agree.

I do not take account here of the possible advantages of co-operative farming, which has only been attempted in England in a very limited and experimental way. It is, of course, reasonable to suppose that if a dozen or twenty small farmers could work together in the purchase and use of instruments they could cultivate their holdings more economically; but apart from the generally unsuccessful results of co-operative industry in this country, it is to be feared that as each of the farmers so working would always require the same implements at the same time, this fact would of itself render their co-operation impracticable.

## CHAPTER VI.

### *ENGLAND'S FOOD SUPPLIES.*

It is still a moot point with economists whether a country, and especially this country, stands at any great disadvantage in consequence of being compelled to import a great part of its supplies of food. Mr. Porter held that "an inconsiderable state or colony may, without much danger or inconvenience, exist under circumstances which oblige it to be habitually dependent upon the soil of other countries for the food of its inhabitants; but a very little inquiry and a very simple calculation would suffice to convince us that this can never be the case with a numerous people." And he proceeds to add, that "to supply the United Kingdom with the single article of wheat would call for the employment of more than twice the amount of shipping that now enters our ports, if indeed it would be possible to procure the grain from other countries in sufficient quantity." [1]

John Stuart Mill, on the other hand, has truly observed that "that country is the most steadily, as well as the most abundantly, supplied with food which draws its supplies from the largest surface." [2] England has verified this fact in many ways, and over a long period of time. Malthus has computed that on the average of sixty years preceding 1720 the labourer could purchase with a day's earnings only two-thirds of a peck of wheat, while from 1720 to 1750 he could purchase a whole peck. The average price of wheat in England

[1] "Progress of the Nation," ed. 1847, p. 136.

[2] "Principles of Political Economy," Book II. chap. X. sec. 1.

for the fifty years ending with 1715, according to the Eton tables, was 41s. 7¾d. per quarter, and for the last twenty-three of these it was 45s. 8d., while for the fifty years following it was no more than 34s. 11d.[1] It is true that during the earlier years of the present century, and, indeed, until the repeal of the Corn Laws, the price of wheat took a higher range than the latter figure, but for the last ten or fifteen years again, it has almost resumed its level during the first half of the last century, concurrently with the payment of enormously higher wages to the labouring classes. It is clear, therefore, that increased imports of wheat have been concurrent with reductions in its cost.

England is by no means the first nation that has been largely dependent upon importations of food to supply the wants of her population. Ancient Athens was in the same position. Her soil, unfavourable to agriculture, could not furnish sufficient to feed her people, so that the importation of food became an important object both of commerce and of legislation. It became a leading branch of business with the Athenian capitalists to advance money for shipowners, but it was provided by law that no money should be lent upon any out-going vessel unless part of her return cargo consisted of corn or other provisions. This law further provided that all imported corn should first be brought to the Athenian market. In exchange, Athens supplied hardware, arms,[2] furniture, dress, and "fancy articles" to the colonies or other countries whence she drew her food supplies. In this respect, therefore, she was the antetype of England as regards the modern system of exchange.

The community as a whole, and the wage-earning section of it in particular, is greatly interested in knowing how far it is probable that the "staff of life" may continue to be available at the exceptionally low prices that

[1] Malthus on Political Economy, p. 225.

[2] The father of Demosthenes owned a manufactory of arms.

have recently prevailed. To solve the problem thus presented we must go far afield. It is not now the condition of our home harvest, nor the cost of producing a bushel of wheat on English soil, that establishes the price at which the people of England can buy their daily bread. It is the competition between England, India, and Russia, the condition and extent of the crops in far-off Dakota and Manitoba, the application of science and economical industry to farming in Western America, and the quotations for ocean freights, that must henceforth determine this consideration.

The opinions of certain political economists and other writers on this subject have, within recent years, been curiously disproved by events. It is now admitted on all hands that there is no real difficulty in supplying our requirements in the matter of food, even though they were much more considerable than they are, from foreign sources; but there are still those who think that the less breadstuffs we import from other countries, and the more we grow at home, the better it will be for our present and future interests.

In this matter, it would almost seem as though the interests of agriculture were not in accord with those of the rest of the community. It is obvious that if foreign wheat is more largely imported from year to year, it not only displaces home-grown wheat, but tends to keep down the price of the latter—in short, that the imported, and not the home-grown article, becomes the determinant of price; and it is not less clear that if prices are thus kept low, the agricultural interest, or at any rate that section of it which is devoted to wheat production, must proportionately suffer.

On the other hand, it seems to be to the advantage of the commercial and industrial classes, as distinguished from the agricultural, to encourage and foster as far as possible our imports of breadstuffs, and for two special reasons, viz.:—

1. That the price of imported wheat is certain to regulate the market for the home-grown, and thus to keep down the cost of both to the consumer; and

2. Because, as there cannot be a large import trade, without a considerable, although not necessarily equal, development of exports, it follows that if our import trade were to decline, our exports would also exhibit the same tendency.

The latter proposition is applicable in a high degree to the trade between this country and the United States. As it is, our exports to that heretofore excellent market have been showing a serious shrinkage within the last two or three years. But it is probable that the difference between having a return freight, and the entire absence of anything of the kind, represents the difference to a large extent, between a greater or a less export trade. When the margin of profit on the business is only infinitesimally small, our manufacturers, despite the high tariff which is designed to exclude them altogether, may, and sometimes actually do, get their goods into United States markets, when such an achievement would be altogether impossible if the shipper could only secure a freight in one direction. In the latter case, indeed, the cost of the transport across the Atlantic would be as nearly as possible double that which would be paid under a different state of things, and if this difference only amounted to 5s. per ton, it would be sufficient in many cases to render business impossible.

Let us now examine the case a little more in detail. England has at the present time a population that cannot be put at less than 37 millions. It is not accurately known how much corn of all kinds that number will consume. Some authorities have put the average at eight bushels per person per annum,[1] at which rate the inhabitants of this country would consume 300 millions

[1] Porter, in his "Progress of the Nation," assumes that the actual consumption per head lies between six and eight bushels; others have put it at only 5 to 5½ bushels.

of bushels per annum. The actual quantity of corn grown in the United Kingdom is estimated at 165 to 175 millions of bushels, of which, however, fully one-fourth would be required for seed, leaving, say, 130 million bushels, which would feed approximately about one-half of the whole population of England and Wales. But in the United States, the quantity of wheat grown in the year 1882 is estimated at upwards of 504 million bushels; of maize, at 1617 million bushels; and of oats, at 488 million bushels, not to speak of large quantities of barley, rye, and buckwheat. Hence it appears that if the same consumption is adopted as the average of the United States, that country will annually grow sufficient bread-stuffs to feed nearly ten times its present population.

The increased growth of cereals is proceeding at such a rapid pace in the newer countries of the world, and especially in our own Colonies and the United States, as to suggest for serious consideration the question whether, in course of time, we shall not have bread-stuffs supplied at a price that will practically exclude home-grown wheat from English markets, and compel our own agriculturists to devote themselves entirely to green crops. In the six years ending 1882 the acreage under corn crops in the United States alone increased from 93 to 126 million acres, or 35 per cent. In the same interval, the total volume of the corn crops produced rose from 2178 million to 2699 million bushels, or nearly 25 per cent. The same movement is going on in our Colonies and in India. Canada has enormously increased its area under cereals between 1875 and 1884. In South Australia, the area under cultivation increased from 959,000 acres in 1871 to 1,400,000 acres in 1880. In Victoria the quantity of wheat grown has increased from 5,500,000 bushels in 1873 to close on 10,000,000 bushels in 1881, being an increase of nearly 100 per cent.; concurrently with which, however, there was only an increase of about

100,000, or 13 per cent., in the population.[1] In Australia, generally, the acreage under wheat was roughly 1,000,000 acres in 1867, and 3,500,000 acres in 1882. In India, again, it is stated that sufficient corn can be grown, after meeting native wants, to supply the whole population of this country; and such a claim certainly receives strong corroboration from the fact that, between 1879 and 1883, the exports of Indian wheat increased from a little over 1,000,000 to more than 19,000,000 cwts.[2] Nor should it be forgotten that Russia, which now sends us over 13,000,000 cwts. of corn yearly, is capable of vastly extending that supply, and still meeting her own requirements.

From this condition of things it would almost seem to follow that, so far from the general community being likely to suffer any loss from the diminishing production of breadstuffs at home, it is likely to enjoy some advantage; and it may be presumed that the more competition there is for the English market, the greater that advantage will be. This prospect is, indeed, practically assured by the experience of the past. The price of wheat has shown a continuous tendency towards greater cheapness since 1867, and in the interval between that year and 1882 it fell about 20s. per imperial quarter. Concurrently with this movement, our imports of wheat and wheat flour rose from 38,225,000 to 77,225,000 cwts., or, in other words, had just about doubled.

The question of how far prices will rule low in the future will be mainly dependent upon the following three considerations:—

1. The extent of the competition among wheat-growing countries for the English market.
2. The lowest price at which wheat can be produced among those countries; and

[1] "Year Book for 1882," p. 423.

[2] "Report on the Moral and Material Progress of India for 1882," p. lxiii.

3. The comparative cheapness or otherwise of the means of transportation.

It is scarcely required that we should dwell upon the first of these conditions. Unless present appearances are greatly deceptive, there will be an increasing keenness of competition for the sure and profitable trade of supplying John Bull with so indispensable an article as bread. The Colonies, the United States, India, Russia, and Hungary, are each eager to secure the lion's share of this enormous trade, and those to whom that share is to fall, must henceforth be satisfied with a smaller average range of profits than they have hitherto received.

As to the price at which wheat can profitably be raised, that is an item which must fluctuate according to the fertility of the soil, the wages paid for agricultural labour, the terms upon which the land is held, and other kindred elements.

It has been asserted that in the Central Provinces of India, about 400 miles as the crow flies from Calcutta, the retail price of wheat is from 5.7s. to 6.6s. per quarter, "including the not inconsiderable profits of the native corn-dealer; so that the prime cost at which wheat is raised in India cannot be more than 5s. to 6s. per quarter."[1] This, of course, applies to localities remote from large centres of population, where land is extremely cheap and wages are very low. But even so, the price at which wheat can be grown in India should give some clue to the price at which it can be reared in the United States. The main difference between the two countries is that of the cost of labour. In India, labour is exceedingly cheap. In the Punjaub, agricultural wages are from 2d. to 6d. per day; in Oudh, 1½d.; in the Central Provinces, 1½d. to 3d.; and in the Bombay Presidency, 3d. to 6d.[2] In the United States, on the other hand,

[1] "Statement of the Trade of British India," 1879-83, p. 65.
[2] "Report on the Moral and Material Progress of India," 1872.

even negro labour rarely commands less than 18s. to 20s. per week, while in the Eastern States agricultural labourers often receive 25s. to 27s. per week, with board. In the former country there are 70,000,000 dependent on agriculture, of whom probably one half will be hired at under 6d. per day.[1] In the latter, the total number of the agricultural population is returned at 7,670,000, of whom rather more than one half are hired labourers, at wages varying from 15s. to 30s. per week, with board in addition. The agricultural productions of the United States are thus burdened with at least three millions sterling as wages above what would require to be paid to the same number of hands in India. But even this difference, great though it appears on the face of it, is more apparent than real, for it must be remembered that it has to be spread over an enormous production of both corn and green crops, and largely also over tobacco and cotton.[2] Of corn crops alone, the agricultural population of the United States produced 350 million quarters in 1880, being at the rate of about 120 quarters per labourer employed. Considering, then, that the United States enjoys the immense advantages of a highly fertile soil, and of a much more temperate climate than India, allowing of a greater amount of work in a given time; and considering also that the land is held on such advantageous terms that the fee-simple is usually obtained for little if anything more than would be annually paid as rent in England, it is not unreasonable to conclude that over vast tracts of the Western States corn may be produced within a comparatively small margin of its cost in India, and certainly for not much

[1] Census of 1881.

[2] In 1880, the production of corn crops in the United States was 2718 million bushels.

| | | | | | |
|---|---|---|---|---|---|
| ,, | ,, | potatoes, | 167 | ,, | ,, |
| ,, | ,, | tobacco, | 446 | ,, | lbs. |
| ,, | ,, | cotton, | 6½ | ,, | bal. |
| ,, | ,, | sugar, | 340 | ,, | lbs. |

more than 10s. per cwt. In Canada, the conditions of production—although, unfortunately for the Dominion, not as yet of distribution—are so similar that it may almost be regarded as one with the United States.

These calculations are not uncorroborated by facts. As to the lowest price at which America and Canada can *profitably* supply wheat for English consumption, opinions and experience greatly differ. But the treatise of Mr. Atkinson, already referred to, shows that wheat can be placed in granaries in Dakota, including all expenses of the crop, at 5 to 10 dols. per acre, the average produce per acre in Dakota ranging from 12 to 20 and even 25 bushels. If the mean of these figures is assumed, it comes out that 16 bushels or 2 quarters of wheat can be put in granaries in Dakota for 7 dols., or say 28s., giving an average of 14s. per quarter on the spot. On these figures, the author argues that "with our present railway and steamship service, even at paying or unprofitable rates of traffic, our farmers can unquestionably contest the markets of Europe with India and Russia down to less than 34s. per quarter in Mark Lane, if they cannot do better at home."

The distribution of the corn supplies of the countries referred to now demands consideration. In this regard the United States occupies a greatly more advantageous position than India, both because of the lower rates of freight on the principal railways, and because of its being much nearer to England. The tendency of late has been towards a cheapening of cost in this direction also. On some of the most important railways of the American Union the rates of freight have been reduced by more than 100 per cent. within the last fifteen years. On one of the leading lines the cost of freight has been reduced by one half since 1873.[1] In regard to ocean transport the reduction of freight has been quite as marked.

[1] On the Pennsylvania Railway the average rate per ton per mile was 1.416 cents in 1873, and 0.819 cents in 1883.

The reduction of the American railway freight-rates, and the ocean-rates from New York and San Francisco to New York, have had a great deal to do with the exceptionally low price of wheat within the last two or three years. Another circumstance contributing to this result has been the competition between the railways and the water-ways of the United States. The greatest corn-mart of the world is, perhaps, Chicago. Between that city and New York wheat can be transported either wholly by rail or wholly by water. Both the rail and the canal rates from West to East have been greatly reduced within the last few years, as is elsewhere pointed out. In ocean freights perhaps even more remarkable reductions have taken place. In 1878 the rate for transportation from New York to Liverpool of a bushel of wheat was 7¾d.; in 1884 it had fallen to 4½d. The effect of these reductions has been that while in 1878 the cost of carrying a quarter of wheat from Chicago to Liverpool was 8s. 5d., it had fallen in 1884 to only 5s. 11d.

In view of what has gone before, we are not indulging in any vain dreaming when we shadow forth the possibility of foreign-grown wheat being landed on our shores within no distant period at less than 30s. per quarter. As with wheat, so, *mutatis mutandis*, with other food staples, including both beef and mutton, potatoes and turnips, and, perhaps, even hay and clover. It has been stated that the recent low prices have not been very profitable to the growers in the United States. But if India, or any other country, can supply wheat at a lower price than America, the American farmer must accommodate himself to that fact, or suffer exclusion from the best market in the world. One fact is beyond all cavil. England will reap the maximum of advantage from the widest possible area of competition among wheat-growing countries, and any attempt to limit that area would be a serious economic error.

## CHAPTER VII.

### *ENGLAND'S ECONOMIC SYSTEM.*

"Our rulers will best promote the improvement of the nation by strictly confining themselves to their own legitimate duties,—by leaving capital to find its most lucrative course, commodities their fair price, industry and intelligence their natural reward, idleness and folly their natural punishment."—MACAULAY.

THERE is perhaps no question bearing upon our national prosperity, and the condition of the working classes in particular, that has been more discussed within recent years, than that of the comparative merits of protection and free-trade respectively. Practically it may be said that England alone, among the nations of the world, permits absolute freedom of trade, limited only by the barest necessities of her revenue. It certainly would seem as if the collective wisdom of all the other countries of Christendom ought to go for more than the preference and experience of one. And yet there are few in our own country who have the hardihood to advocate protection for its own sake. It is almost universally admitted by Englishmen, that whatever may be the best for other countries, England has much more to gain from free-trade than she would have from protection in any form whatsoever—whether as the boldly-pronounced policy of the old corn-law system, or under its modern and thinly-disguised veils of fair-trade and reciprocity.

Speaking on the 27th January 1846, Sir Robert Peel made the following remarks in favour of free-trade, and against the argument that danger would accrue to British

trade in consequence of the absence of reciprocity on the part of other countries:—

"Depend upon it, your example will ultimately prevail. When your example could be quoted in favour of restriction, it was quoted largely; when your example can be quoted in favour of relaxation, as conducive to your interests, it may perhaps excite at first in foreign governments, or foreign boards of trade, but little interest or feeling; but the sense of the people—of the great body of consumers—will prevail; and in spite of the desire of governments and boards of trade to raise revenue by restrictive duties, reason and common sense will induce relaxation of high duties."

After the lapse of about forty years it is interesting to inquire and ascertain how far Sir Robert Peel's anticipations have been, or are likely to be realised. Of the total revenue of the five principal countries, other than our own, the proportion raised from customs duties is still upwards of 20 per cent. England remains almost the only country that raises a revenue on imports of articles of luxury alone. In nearly all other countries duties are levied on the most common and necessary articles of food. Bacon and ham, for example, are taxed on crossing the frontiers of no fewer than fourteen different European countries. Butter is not admitted into ten of those same countries without the payment of duties varying from 1s. 0¼d. per cwt. in France, to 35s. 3d. in Portugal. In sixteen European countries cheese is required to pay, on import, duties varying from 1s. 2¾d. per cwt. in France, to 39s. 5d. in Russia. Salted beef, again—which is a staple article of diet in most countries, and is almost exclusively used by the wage-earning classes—is called upon to bear an import duty in fifteen of the countries of Europe. Nor is there a single European country, except Belgium and England, that does not levy a duty on one or other of the many forms of imported fish, the amount so added to the normal cost being in some cases

as high as 35 per cent. These are only a few of the multitude of fiscal follies of which most of the otherwise enlightened nations of the earth are guilty.

Let us now consider some of the reasons assigned for this state of things. The principal arguments adduced in favour of protection, so far as regards the United States—and presumably applicable to other protectionist countries as well—have been expressed in the following terms :—

1. No country of modern times which is without manufactures, which exports raw products for foreign-made goods, and the inhabitants of which are almost wholly engaged in the cultivation of the soil, has succeeded in obtaining wealth, prosperity, and power as a nation.
2. If, during the past fifty years, America had permitted a system of unrestricted trade with all the world, she could never have reached that development of her manufactures which has rendered her independent; but would, to-day, be little more than a huge agricultural colony, exchanging the products of her fields for the manufactures and fabrics of Europe.
3. Under a system of protection America has been able to develop her boundless mineral resources, to encourage the growth of her manufacturing industries, until to-day she is not merely independent and able to supply her own needs, but she exports to foreign nations, and is able to compete with England for the markets of the world.
4. A protective tariff has been the most important, and indeed the essential agent, in the development of the manufacturing industries of the United States.
5. The working classes in the United States, under a system of protection, enjoy a greater degree of

prosperity than the working classes of England under a system of free-trade.[1]

To answer these arguments in detail would be to undertake an exposition of the whole controversy between the opposite economic systems of protection and free-trade. This work has already been done so well and so thoroughly by the late Professor Fawcett and other writers, that to attempt its repetition here would be distinctly supererogatory. Briefly, however, it may be pointed out that not one of all the five arguments postulated goes to the root of the matter, while all of them are more or less based upon hypotheses that are far from being sound and tenable. The following counter-propositions are perhaps a sufficient reply:—

1. No country of modern times is entirely without manufactures. The European countries most dependent upon imported manufactures are Italy and Spain. The first of these countries has within the last half century advanced to the dignity of a great power, and has achieved comparatively a large amount of prosperity in spite of this circumstance. Spain is neither wealthy nor powerful, but she is deficient in these attributes, not because of the absence of manufactures, but because of the moral defects that exist in her people and her institutions. Australia, on the other hand, which is almost exclusively agricultural, has achieved "wealth, prosperity, and power" more rapidly than any country of either ancient or modern times.[2]

[1] "Free-Trade from an American Standpoint."—*Contemporary Review*, July 1880.

[2] The wealth of Australia showed an increase between 1860 and 1882 of about £400,000,000 sterling, or £47 per inhabitant. The income of Australia, per inhabitant, is calculated at £44 per annum, or £17 per

2. As there is nothing so uncertain as the unknown, so it is impossible to predicate what America would have been to-day under a different economic system to that which she has elected to pursue. What *is* known is that protection has enormously increased the cost of everything that is not purely raw material to the American consumer, and has thereby artificially increased the cost of labour, and rendered it needlessly difficult for American manufacturers both to supply the requirements of their own people, and to develop a trade in neutral markets.
3. America has certainly been able to develop her resources and industries under protection; but what could she not have done if she had not been handicapped and restrained by the burdens which that system inevitably entails? The mineral resources of the United States are such as no other country in the world can excel. Nothing, therefore, but the most culpable neglect of means and opportunities could have hindered their development. As it is, they have been opened up at a much greater cost to the American people than was necessary, and that same increase of cost, so far from assisting America to export her products to foreign nations, has had a distinctly opposite effect.[1] The whole history of American exports proves conclusively that it is in raw materials,

head more than that of the United States, and £9 per head more than that of the United Kingdom. Of the total wealth of Australia, £258,000,000 are in land, and only £112,000,000 in manufactures, &c.

[1] The total average value of the exports from the United States between 1851 and 1860 amounted to 48 million pounds, of which only 2¼ millions were manufactures. Between 1861 and 1870, the annual average value of the exports was 47½ million pounds, but only £1,800,000 were manufactures. Between 1870 and 1880 the average annual value of American exports had risen to over 111 millions, but only 4¼ millions were manufactures, the remainder being raw materials.

and not in manufactures, that the wealth of the country consists, and upon which her prosperity is dependent; and it is only repeating the tritest of truisms to say, that there could be no greater unwisdom than to tax those who produce this wealth, in respect of all manufactured products, in order that a very small minority of the community may bask in the sunshine of artificially-created prosperity.

4. It may perhaps be admitted that manufacturing industries have been developed under protection more rapidly and more largely than they would have been under a different system, though this is by no means a settled fact. It is, indeed, quite possible to conceive of an even more considerable development of industry had absolute freedom of trade been permitted. For it is not as if protection had altogether excluded foreign manufactures. Had it succeeded in achieving this result, its *raison d'être* would have been much more apparent, and its unquestionable evils might have been largely condoned. But the imports of manufactures into the United States have steadily increased from year to year,[1] and as they have generally varied in amount according to the degree of development and the consequent ability or otherwise to meet home requirements that has marked at the time the condition of the home industries whose resources of production they have been received to supplement, there is no good reason to suppose that this amount would have been greater under a different economic system. The United States have always enjoyed and always will enjoy a

[1] The total value of the imports into the United States—almost exclusively manufactures—increased from 57 millions sterling in 1861 to 95 millions in 1871, and to 130 millions in 1881. In 1861 the imports were equal to 35s. per head; in 1881, to 50s. per head.

natural protection from the cheaper manufactures of Europe in the cost of Atlantic freights. This protection should be, and we believe actually is, sufficient, of itself, to enable American manufacturers to retain their hold over their own markets.

5. It may again be admitted that the working classes in the United States as a whole enjoy greater prosperity than the working classes of England; but it is by no means clear that any possible advantage of this sort is due to protection. If protection were alone responsible for this difference, why has it failed to achieve in Germany, Italy, Russia, and other more or less highly protected countries, the same results that are attributed to its supposed beneficent sway in America? In these countries, indeed, the average rate of wages is as much below as the average of America is above that of England. When, therefore, American protectionists seek to establish a law of this kind, they should remember that no general law can be based on exceptions, and inasmuch as high wages in protectionist countries are *not the rule, but the exception,* the most elementary dictates of common sense must compel them to forego so untenable a position.

A few more words on this latter phase of the subject may be permitted. While it is true that in the majority of European countries wages rule lower than in England, in spite of protective tariffs, it is also unquestionably true that the tendency of such tariffs is to increase the cost of living. That they have so raised the price of all manufactured commodities in the United States goes without saying. In that country, house rent and clothing are perhaps 100 per cent. higher than in England, and so with many other necessaries into the production of which labour enters largely. Whether the higher wages paid in

America suffice, after meeting this enhanced cost of living, to leave a greater margin in hand than the lower wages and concurrently higher purchasing power of money in England, is a problem that only the most elaborate demonstration could effectually solve. But it is certainly the most egregious of errors to maintain that protection relieves the working classes from the liability to periodical crises, with their attendant contraction both of the opportunities for steady labour, and of the requital of industry that is so common a feature in English industrial history. One of the most trustworthy of American authorities has ascertained that as between 1882 and 1884, upwards of 300,000 working men were thrown out of work in cities throughout the States, while in the same interval wages had been reduced in nearly all the leading industries of the countries, to an extent varying from 10 to 25 per cent.[1] The most deplorable accounts have been published of the general condition of the working classes in America during this period. The reduced activity in railway extension threw many thousands entirely out of work. No compensating enterprise in other directions provided the means of absorbing the men so thrown upon the labour market. As a consequence, depression and want, such as even Europe does not often experience, became general. Such crises in England are bad enough, and are, unfortunately, only too familiar. In America, however, they are greatly aggravated by the effects of the very system which is looked to by the State as the main prop of industry and labour. Whatever his circumstances may be, the artisan must have a roof above his head. In England rents are so comparatively low that when labour is ill-requited or employment is impossible to procure, the outlay on this account is not so much felt as in a country where rents have been made double what they should be by the artificial enhancement of all kinds of values. In England,

[1] Vide *Bradstreet's* for 1885.

again, the working man, in his worst estate, can command the necessaries of life at the *minima* of cost. He has almost a free breakfast table. His wants, as regards the main staples of his food supply, are supplied from the cheapest markets of the world, unhampered by any duties, and unrestricted by any burdens whatsoever. In protectionist countries, the working population, in their direst straits, have no such resource. In Germany, foreign wheat, of late years increasingly consumed, is subject to a duty which, although not considerable, is yet sufficient to differentiate, as against that country, a staple article of food. The artisan of Havre is forbidden by law to eat imported bacon, and must needs limit his consumption to the home-grown article, whether it costs more or less. It is the same with many of the commodities in general use. Free-trade inevitably entails the *minima*, while protection is attended by the *maxima* of cost.

England has not, however, yet enjoyed all the advantages that she has a right to expect to reap from her system of free-trade. In reference to bread staples, it is more than probable that they will by-and-bye be considerably cheapened. The reduction that has taken place in the rates of freight within the past few years have been most remarkable. The average lake and canal freight in 1879 from Chicago to Buffalo, a distance of 900 miles, was about 6s. 6d. per ton for wheat and 6s. 3d. per ton for corn; while from Buffalo to New York, a further distance of 500 miles (by canal), the freight was 9s. 8d. per ton for wheat and 9s. 4d. for corn. Here then we have corn and wheat carried a total distance of 1400 miles from the neighbourhood of its production, before being put on board ship at New York, at a cost of about 16s. per ton, or 4s. per quarter. In the ocean freights from New York to Liverpool and London, the reduction is still more striking. Wheat, which was freighted at 12s. per quarter in 1875, has been carried at as low a rate as 3d. to 3½d. per bushel

in 1879, and since that date the average range has not been probably more than 4½d. to 6d. per bushel, or 2s. 8d. per quarter. Let it not, then, excite surprise if wheat should hereafter be regularly delivered in London at an average transportation charge of not more than 5s. 6d. or 6s. per quarter for a distance of nearly 5000 miles, including lake and canal journey between Chicago and New York. It is the inevitable effect of free-trade to afford to the consumer every advantage that belongs to being able to purchase in the cheapest market, and the fact of being able to secure cheap bread is only one of the many facilities thus obtained.

Looking now at the other side of the subject, a very striking comment on the results that sometimes follows from a protective policy, or at any rate accompanies it, is furnished by Her Majesty's Consul at Savannah.[1] In 1860, which may be regarded as the low tariff period, the average wages paid in the cotton mills at Savannah were 361 dols. 40 cts. per annum; in 1879, which represents the high tariff or protection period, wages only averaged 240 dols. 17 cts., showing a decline of about 34 per cent. In the woollen mills the average wages paid at the former period were 359 dols. 26 cts., and at the latter period 293 dols. 5 cts., a decrease of 22 per cent. If there had, in the interval, been a corresponding decrease of the cost of living, the difference between the two periods might have been immaterial. But the reporter goes on to point out that whereas in 1860 the cost of fifty-eight articles of household requirement was 72 dols. 28 cts., the cost of the same commodities in 1879 was 100 dols., whence he argues a difference of 33½ per cent. in the purchasing power of money, in favour of the low tariff period.[2] An average

[1] "Report on the Products and Industries of the State of Georgia for 1882."

[2] No details are afforded whereby to test the accuracy or reasonableness of these figures.

decrease of wages to the extent of 28 per cent. has thus been concurrent with an average increase of 33½ per cent. in the cost of living.

It is one of the most noticeable features of protectionist tariffs that they vary so greatly in their incidence, not only from period to period, but from year to year, thereby proving, as far as the evidence goes, a want of system and uniformity, and contrasting most curiously and disadvantageously with the absolute certainty and consistency of free-trade principles. In the earlier years of the commercial history of the United States, the tariff was low. Up to 1808, the amount of duty charged on imports did not exceed in any one year more than 16 per cent. on their aggregate value. In 1813, however, this figure rose to 60 per cent.; fell in the following year to 47 per cent.; declined, two years later still, to 25 per cent., and in 1818 amounted to only 14 per cent., so that within six years the amount collected as customs duties varied as much as 330 per cent. Since that time, the same tendency, although in a modified form, has been equally apparent. From 1833, when a "compromise" tariff was adopted, until 1844, the customs duties were under 20 per cent. of the aggregate value of the dutiable imports. From 1844 to 1855, with the exception of only two years, they were above that limit, although the tariff then in force was ostensibly designed for revenue purposes only. In 1864, a highly protective general tariff was introduced, and for the next fifteen years, with only two exceptions, the average *ad val.* rate of duty collected on *all imports*, including both free and dutiable commodities, was over 30 per cent., while on dutiable commodities, considered as such, it was over 40 per cent.

Nor are the vagaries of the tariff less remarkable when subjected to more detailed analysis. It does not seem, on the face of it, as if it were constructed with a view to giving equal protection to all industries, nor is it

so arranged as to protect most completely the industries that are, in their inherent circumstances, most in need of its ægis. It is equally far removed from being a purely revenue tariff and a purely protective tariff. Why, for example, under the tariff of 1881, should the average *ad val.* rate of duty on wool be 60 per cent., and that on cotton only 38 per cent.? Why should silk manufactures pay a rate equal to 59 per cent., and jute and hemp only 21 per cent.? Nor is it a less puzzling conundrum why manufactured cotton should pay no duty, while other raw materials, equally indigenous to the country, should pay, as in the case of coal, 25 per cent., and, as in the case of salt, 48 per cent. *ad val.*; or, as if this were not enough, why make this remarkable difference between coal and salt? The truth is that, from first to last, the American tariff is a tissue of absurdities, anomalies, and inconsistencies. It is constructed on no fixed principle, illustrates no national characteristic, expresses no national sentiment, subserves no national purpose. It is weakest where it should be strongest, helps the healthy, and hurts the feeble. It taxes such necessaries of life as breadstuffs, iron, and cotton goods, and it allows to enter untaxed such luxuries as tea, furs, ivory, and works of art. It is the platform upon which the professional American politician pulls the strings of party. It is the most radical example of the worst vices of the American people, being varied from year to year, not so much with any honest, serious, consistent purpose, as to provide a sop to Cerberus, and promote the hydra-headed evil of jobbery and corruption. Arguing from all analogy, one would deem it impossible that a system so out of harmony with the sturdy, self-reliant, capable American character could be perpetuated; but it must, at the same time, be admitted that its later history is less auspicious than its earlier, and that the knell of its fate has not yet apparently been sounded.

Italy may be cited as another of many examples of a

country that has lost much more than she has gained by imposing tariff duties upon articles of domestic consumption. The Government of that country not only taxes, more or less heavily, commodities that the people as a whole may find it possible to dispense with, but the suicidal mistake is made of taxing articles of food as well. For example, a tax of 8s. 2d. per cwt. is imposed on bacon and ham; of 6s. 1d. on salted butter; of 3s. 3d. on cheese; of 8s. 2d. on beef; of 1s. 1½d. on chocolate and cocoa; and so with a number of other articles. Is Italy prosperous as a consequence? Let the following quotation from the latest report of Her Majesty's Secretary of Embassy and Legation at Rome[1] answer the question. That gentleman states, that on the plains a farm labourer never gets any other meat than a little pork, and that "even when apparently satiated, he suffers from chronic physical hunger, because his food is deficient in nutritive quality." Again, he writes that the average wages of the labourers—1 franc (10d.) per day—is miserably inadequate to provide food, clothing, and the necessaries of bare life for a man, and much more so if he have a wife and children. Whilst men will walk 40 or 50 miles in order to engage in the lowest and foulest work, such as rice cleaning, in order to gain 30 francs by 40 days' labour in the heat of summer, provided only with the bread which they can carry or procure in the neighbourhood, it is no wonder that social disturbances crop up, and that the law of compulsory education remains to a large extent a dead letter; nor is it surprising that the peasant, "driven by want and misery, should quit with tears his poor but beloved habitation to seek better fortune in distant lands, leaving his starving wife and little ones to do the best they can." Nor is the condition much better in industrial districts. "In the powder factories," the same

[1] "Report by Mr. Beauclerk on the Agricultural Condition of the Kingdom of Italy, 1884."

authority writes, "the workmen only receive from 1s. to 1s. 6d. per day as wages, and in case of accidents from explosions, which are not rare, the employers will do absolutely nothing for the victims." Again, in the Carrara marble quarries, "wages only average 2½ or 3 francs per day. . . . The habitations of the workmen are miserable in the extreme. Their children, exhausted by premature labour, grow up dwarfed and lean, and, as adults, appear pale, meagre, bent, and weak."

Take, again, the case of an almost purely agricultural country like Hungary, and a great part of Austria. Hungary alone imports over six million pounds sterling worth of goods of all kinds, in addition to the 18½ million pounds worth that she receives from Austria. Most of this takes the form of textiles, wherewith to clothe her population; and iron and steel, as machinery chiefly, to till the land, provide railways, &c. In these directions, Hungary has very little competition to oppose to outsiders, and yet, without having her own industry developed to any material extent as a consequence of the duties so levied, she is content to go on increasing the cost of almost every article required for domestic use by the amount to which imports are taxed.

Austria, although not a country that is largely engaged in manufactures, and therefore compelled to depend upon imports from other countries, is yet, like other Continental nations, wedded to protection rather than to free-trade. In 1882, she imported goods to the value of over 65½ million pounds sterling, on which duties to the aggregate amount of £3,773,812 were paid, being 5.7 per cent. of their total value. These duties, however, so far from being levied exclusively, or even mainly, on luxuries, were chiefly imposed upon articles of everyday use, for we find in the long list of her imports such commodities as corn, rice, flour, vegetables, and fruits, among food supplies, and cotton, woollens, flax, hemp, and jute, among articles used for clothing. If Austria found, as a result

of imposing such duties, that her own industry was being largely developed, and that her imports were decreasing from year to year, then her policy would at least have a colourable pretence of being justified by the results; but, so far from this being the case, the number of articles imported and the extent of the imports are increasing from year to year. One or two cases only may be cited in proof of the inadequacy of the system pursued to effectuate any result advantageous to the country. An import duty of over £4 a ton is imposed on ship plates. Has this stimulated local iron shipbuilding? The statistics of Austrian industry show that there are only 3400 persons employed in that trade in the whole Empire. On jute and hemp there are duties varying from £3 to £7 per cwt. Are the jute and hemp industries therefore flourishing in Austria? On the contrary, there are only 940 persons employed in the former, and 1992 in the latter. There is no good reason why Austria should not compete successfully with England in these industries. The main source of supply for the raw material is nearer to her shores than to ours; she has cheaper labour at command; and she has the whole of her own population and those of the Danubian principalities for a market. And yet it appears that, with protection to help her, and these advantages besides, she does not produce a twentieth part of the quantity turned out by England, and is obliged to import largely from us in aid of her own limited production.

If we examine this question in reference to the circumstances of other protectionist countries, we shall find the same tendencies and results. But it does not seem necessary to further multiply examples.

The error that lies at the root of most protectionist theories, as already indicated, is that it is the duty of a country to develop its manufactures, quite apart from the adaptability of its resources for that purpose, and that protective tariffs are the surest means to this end.

The people of the United States do not believe in the view, not unfrequently put forward, that it is their "manifest destiny" to supply the rest of the world, or, at any rate, a large part of it, with breadstuffs, and take the manufactures of other countries in exchange. They act as if they thought that they should both have their cake and eat it; that they should at the same time protect their native industries to the extent of some 40 per cent. of the total value of their products, and enter into successful competition with the products of nations that have discarded protection in the neutral markets of the world. How futile such a hope must be is clearly enough proved by the official records of their foreign commerce, showing, as they do, that only 15 per cent. of their whole exports in 1884 took the form of manufactured articles, as against about 74 per cent. of agricultural products; or, adopting the words of the Government statist, "the exports of manufactures were only about 2 per cent. of the total value of the product of the manufacturing industries of the country." The fact that so much even as this proportion has been exported is ascribed "first, to the fact that, owing to peculiar conditions, the cost of producing certain articles had considerably increased. In 1865 the total amount of duty collected on imports into the United States was over sixteen millions sterling, the average *ad valorem* rate on dutiable articles being not less than 47.56 per cent. In 1884, the total amount of duty so collected was over thirty-eight millions, representing an average *ad val.* rate of 41.7 per cent. on the dutiable commodities. But the value of the commodities entered entirely free of duty had, in the interval, increased to such an extent, that while the average *ad val.* rate of duty on free and dutiable articles together was 38.4 per cent. in 1865, it had fallen to 28.5 per cent. in 1884." America, therefore, has made decided progress towards freer trade in these twenty years. The progress has not, perhaps, been very

striking, and it is no doubt sufficiently bad that 68 per cent. of the total imports should still be liable to an average *ad val.* rate of 41.7 per cent. duty. But with the single exception of 1874, when it was just one per cent. less, there has been no one year, during the last twenty years, when the average rate of duty on *all* imports was so low as in 1884.

It may seem a paradox, but we nevertheless maintain it to be true, that England would probably have more to fear from other manufacturing nations *if they abolished their protective duties*, than she has now, that they are in operation. Why is this? Simply because so long as the present system of protection is maintained, protectionist countries are little likely to be able to compete with a free-trade country in neutral markets. But, on the other hand, if countries now protectionist, and equally endowed with ourselves in the matter of natural resources, were to forswear their economic fallacies, and become converted to the true faith, they would be likely, in course of time, by throwing off the fetters that now impede their proper development, to prove formidable rivals in the markets to which they are now denied access. Suppose for a moment that the United States were able to produce textiles as cheaply as Great Britain, there would, in that case, be no good reason why the stuffs of Massachusetts and Connecticut should not successfully compete with the same products made in England, in markets all over the world. It may be said that there is the ocean freight against American manufacturers; but it need cost no more to export the manufactured article than it now does to export the raw cotton, whence England produces the manufactures that have secured her a reputation in all parts of the world. It is the same with many other commodities, the raw materials of which are more or less largely imported from America. But it is obvious that so long as the United States artificially keep up the price of their manufactures by high wages,

expensive works, dear transportation, and so forth, they cannot hope to obtain an outlet for manufactures that are produced in competition with those that England is happily enabled to supply under a system of free-trade, which, if it does not mean high wages, means perhaps more than equivalent advantages in cheap living, low rents, inexpensive clothing, and other advantages to employer and employed alike. The working man in the very heart of England—in Birmingham, Manchester, or Bradford—is able to purchase breadstuffs as cheaply as the Russian peasant[1] or the Massachusetts cotton operative, while he can purchase most of the luxuries and conveniences of life much more cheaply.

It is well worth while considering for a moment what would be the position of the population of this country, if our rulers were to return to the system that preceded the repeal of the corn laws. Have the advocates of a duty on imported corn ever seriously considered what would be the effect of such a step? England now imports over 600 million quarters of corn per annum. Impose a tax of 5s. per quarter upon this quantity, and the product would be over 175 million pounds sterling per annum. Upon whom would the burden of this tax chiefly fall? Not upon the upper or middle classes, who, besides being a comparatively small minority of the whole population, are better able to bear such a burden; but upon the great body of the working classes—upon the eight millions of people in this country who, and whose families, live by manufacturing industry. The imposition of such a tax would be equivalent to a charge of nearly £5 per head upon every man, woman, and child in the three kingdoms. And what would be gained as a

[1] The wages paid in Russia are, perhaps, lower than in any other country in Europe, and yet Vice-Consul Lowe reports that at Berdiansk, in a recent year, the price of wheat was 40s. to 48s. per quarter, or several shillings per quarter higher than the price of wheat in England in the same year.

*quid pro quo?* Will it be pretended that wages would thus be increased? There is not a shred of evidence to support such a view. Is it believed that our trade with other countries would thereby be improved? To believe that would simply be to believe that you can make the English artizan and labourer more efficient by making it harder and more difficult for him to live. No one will suppose or seriously contend that other nations would be more likely to receive our manufactures if they were increased in cost, which they would inevitably be by higher wages; or if they were deteriorated in quality, which they would be likely to be by lowering the physical, and as a consequence, the mental capacity of the workers.

On a survey of the whole matter, then, it is difficult to believe that England does not gain immensely, as compared with other nations, by her system of free imports. Both in theory and in practice her fiscal regulations are sound. They allow of all the necessaries and many of the comforts and conveniences of life being purchased more cheaply than in any other country in the world, taking all things into consideration. It is a much-debated question which is the cheapest country to live in. An answer that would take every factor of such cost into the purview would not be easy; but there is good reason to believe that England is certainly not a more expensive country to live in than most others, while the rate of wages paid to English artizans is generally higher than that paid to the same classes in protectionist countries.

We have seen, on the other hand, that, with rare exceptions, which only go to prove the rule, protection fails to afford permanently higher wages, that it makes an export trade next to impossible, that it largely increases the cost of all commodities in countries where it is adopted, and that it does not even altogether prevent that which it is mainly intended to hinder, namely, the import of the produce and manufactures of other countries.

## CHAPTER VIII.

### *THE COMMERCE OF ENGLAND.*

"Gold and iron are good
To buy iron and gold;
All earth's fleece and food
For their like are sold."

THE most commercial nation of antiquity was that of Carthage, who, unlike their modern prototypes, are sneered at by writers of antiquity as a people given up to the all-absorbing pursuit of buying in the cheapest and selling in the dearest market. The Carthagenians carried on a great commerce by sea and land, traversing at once the mysterious desert, described by Herodotus as "the sandy ridge above wild-beast Lybia, stretching from Thebes of the Egyptian to the Pillars of Hercules," and the broad Atlantic, which Himilco, one of their commanders, speaks of as "the open sea, beyond the pillars, where thick fog rests on the waters; the ocean which roars around the land; the unbounded sea."[1] And in the appearance of their country, as well as in their character and pursuits, the Carthagenians had many points of contact with modern England. Diodorus Siculus, describing the Sicilian expedition of Agothocles, says of Carthage:—

"It was covered with gardens and large plantations, everywhere intersected by canals. . . . A continual succession of landed estates was seen, adorned with elegant buildings, which betrayed the opulence of their owners.

[1] "Festus Avernus," quoted in Heeren.

These dwellings were furnished with everything requisite for the enjoyment of man. . . . On one side were meadows filled with flocks and herds, and on the lower grounds ranged troops of brood mares."

Nor does the comparison end here, for the Carthagenians, like the English, were distinguished for their successful colonisation and for their manufacturing industry. Carthage, according to Aristotle, preserved the love of her people by "sending out continually colonies, composed of her citizens, into the districts around her, and by that means makes them men of property." Like the English colonies of the present day, those of Carthage received supplies of manufactured commodities from the mother country, and made recompense in agricultural produce, so that, to quote the remark of Thucydides, "since colonies were established beyond the sea, several of the cities began to apply themselves to navigation and commerce, and the mutual intercourse kept up between the two afforded advantages to each party."

There is no more interesting chapter of England's history than that which describes the growth and vicissitudes of her commerce. This, however, is not a matter upon which we can enter here, except in so far as allusions to the past are calculated to throw light upon the circumstances of the present time.

M'Culloch has shown very lucidly how the excess of the value of the exports of a country over that of the imports came to be regarded as the sole cause and measure of the progress of a country in the career of wealth.[1] To enable the trading classes, in the days of what is now known as the mercantile system, "to obtain cheap provisions, and to carry on their industry to the best advantage, the exportation of corn and of the raw materials of their manufactures was strictly prohibited; at the same time that heavy duties and absolute prohibitions were imposed to prevent the importation of manufactured

[1] "Principles of Political Economy," ed. 1825, p. 29.

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articles from abroad, and to secure the complete monopoly of the home market to the home manufacturers." This rule for estimating the advantageousness of commerce was long regarded by the generality of merchants and practical statesmen as infallible, and it formed, to use the words of the author just quoted, "the principal feature of the system of public economy adopted, in the view of encouraging manufacturing industry, in every country in Europe in the fourteenth, fifteenth, sixteenth, and seventeenth centuries," while it was still so far held, at the time when M'Culloch wrote, that he speaks of the "inveteracy of ancient prejudice," that led to the nation being "still annually congratulated on the excess of its imports over its exports."

The "regulating mania" which the early political economists were almost unanimous in condemning as having "tormented industry in a thousand ways to force it from its natural channels;" as having "made each particular nation regard the welfare of its neighbours as incompatible with its own;" as having "induced that spirit of commercial rivalry which has been the immediate or remote cause of the greater number of modern wars;" as having "stimulated nations to employ force or cunning to extort commercial treaties, productive of no real advantage to themselves, from the weakness or ignorance of others;" and as having "deluged the earth with blood, and depopulated and ruined some of those countries whose power and opulence it was supposed it would carry to the highest pitch;"[1]—this system which, where it has been productive even of the least injury, has retarded the progress of national prosperity is, under another name, and with its aims and pretensions but speciously disguised, the same that every now and again still confronts us as the universal panacea for all the evils of ill-requited capital, unemployed labour, and general

[1] Storch's "Cours d'Economie Politique," tome i. p. 122.

commercial distress. It is practically the selfsame system that most of the nations of the world practise under the euphemistic designation of "protection to native industry," and it is a system, moreover, which England alone, among the great commercial nations of the world, has utterly cast off and for ever discarded.

To trace the growth of free-trade principles in our own country since Sir Dudley North first enunciated its spirit in the maxim that "the whole world as to trade is but as one nation or people, and therein nations are as persons," is not any part of the purpose of this book. But it is of great importance, in any review of the commercial growth of different countries, to consider the comparative results that have been accomplished by free-trade as against protection in the development of national commerce and industry.

The most complete and logical recognition of the superiority of free-trade as distinguished from protectionist doctrines of which we have any record up to that time, is contained in a petition to the House of Commons, drawn up in 1820 by a large number of then leading London merchants. This document, to the extent of its influence, sounded the death-knell of both protection and reciprocity. With respect to the former, it stated that "freedom from restraint is calculated to give the utmost extension to foreign trade, and the best direction to the capital and industry of the country;" and, further, that "the maxim of buying in the cheapest market and selling in the dearest, which regulates every merchant in his individual dealings, is strictly applicable as the best rule for the trade of the whole nation." It was very justly argued "that although, as a matter of mere diplomacy, it may sometimes answer to hold out the removal of particular prohibitions or high duties, as depending upon corresponding concessions by other States in our favour, it does not follow that we should maintain our restrictions in cases where the de-

sired concessions on their part cannot be obtained; our restrictions would not be the less prejudicial to our own capital and industry, because other governments persist in preserving impolitic regulations."

The economic views contained in this petition were much combated at the time, and are still doubted by a very important section of the community. But experience has amply vindicated their soundness in the sixty-four years that have elapsed since they were written.

At that time the total foreign trade of England was estimated as being of the value of about eighty millions sterling, of which nearly fifty millions were exports, including the re-exports of foreign and colonial merchandise previously imported into English ports.[1] Since then, however, the exports have continuously failed to keep pace with the imports, and in 1845 the declared or real value of the exports had only increased to sixty millions, while that of the imports had risen to seventy-five millions, the re-exports of foreign and colonial merchandise having meanwhile fluctuated between eight and sixteen millions a year.

Mr. Newmarch has shown that between 1860 and 1875, the increase per head of imports and exports for five of the chief countries of the world was as under—

| | Increase in Imports. | Shillings of Exports. |
|---|---|---|
| France, | 32 | 34 |
| Austria, | 26 | 12 |
| Russia, | 15 | 19 |
| United States, | 10 | 11 |
| United Kingdom, | 100 | 52 |

[1] It is very difficult to make an accurate comparison of one period with another previous to 1854, because, until then, the real value of the imports and of the exports of foreign and colonial produce was not ascertained by the Board of Trade. The standard of the *official value*, at which all imports were computed until then, was fixed in the year 1694, and was preserved in the public accounts, because it was supposed to afford a correct measure of the *comparative quantity* of merchandise which made up the sum of our annual dealings with other countries.

The absolute *amount* of increase of imports and exports for the same countries, over the same period, was—

| | Increase in Pounds sterling of Imports. | Exports. |
|---|---|---|
| France, | 53 | 64 |
| Austria, | 52 | 24 |
| Russia, | 60 | 33 |
| United States, | 41 | 38 |
| United Kingdom, | 164 | 90 |

It is pointed out by Mr. Newmarch that while the increase of imports in the United Kingdom was a normal one, that of the other countries tabulated was largely swollen by special consignments required for railway extensions. In the case of the exports again, while other countries have largely increased their exports of raw materials, the increase in the United Kingdom has been almost entirely one of manufactured goods.

We will now subject the matter to another test—that of the increase of *exports alone*, in the chief countries of the world, between the years 1869 and 1880, a period which covers some of the best as well as some of the most depressed years that English commerce has known, and sufficiently near to our own time to exhibit what may be regarded as its current tendencies. The following statement shows that among the twelve countries tabulated, the absolute amount of increase of exports per head of the population has taken place in the following order:—

1. Canada.
2. United States.
3. Belgium.
4. Austria.
5. Australia.
6. France, Germany, and Russia.
7. United Kingdom.
8. India.

But it will be observed that, with the exceptions of our Australasian Colonies and Belgium, England's exports

*per capita* are still higher than those of any other country, being more than double those of Germany, and nearly double those of both France and the United States.

*Statement showing the Total Value, per head of the Population, of the Exports of Different Countries in each of the Years* 1869 *and* 1880.

| Country. | Value of Exports per Head in | | Increase in 1880. |
|---|---|---|---|
| | 1869. | 1880. | |
| France, . . . | £3 6 0 | £3 14 0 | £0 8 0 |
| Germany, . . | 2 16 0 | 3 4 0 | 0 8 0 |
| Austria, . . . | 1 4 0 | 1 16 0 | 0 12 0 |
| Russia, . . . | 0 10 0 | 0 18 0 | 0 8 0 |
| United States, . . | 1 10 0 | 3 8 0 | 1 18 0 |
| Belgium, . . | 8 2 0 | 8 16 0 | 0 14 0 |
| Italy, . . . | ... | 1 11 0 | ... |
| Spain, . . . | ... | 1 12 0 | ... |
| United Kingdom, . | 6 2 7 | 6 9 5 | 0 6 10 |
| English possessions— | | | |
| Canada, . . | 0 4 0 | 4 7 0 | 6 3 0 |
| India, . . | 0 6 0 | 0 8 0 | 0 2 0 |
| Australasia, . | 17 9 0 | 18 0 0 | 0 11 9 |

One of the most hopeful and gratifying features of the export trade of the United Kingdom is the large increase within recent years in the *unenumerated* and *supplemental* exports, which may no doubt be accepted as a measure and test of the growth of new and minor industries. Between 1856 and 1877, our exports under this head increased from *thirteen millions* to *thirty-seven millions;* or, in other words, they rose from only 11 per cent. of the whole in 1856 to 19 per cent. of the whole in 1877. Supplemental imports during the same interval increased from *thirty-eight* to *eighty-four* millions sterling. In the opinion of Mr. Newmarch, both these sets of figures are "strongly suggestive of a vigorous and inventive trade, in which the rapid appearance of new commodities is perpetually pressing open and enlarging the previous classifications and vocabularies."

There is a considerable optimist school that views with

great alarm the decline of a certain proportion of our trade with countries that have long since learned how to supply their own needs, and—what is of the utmost importance to that end—are possessed of all the necessary resources for so doing. Such alarmists appear to forget that new markets are continually being opened out to English enterprise, that we have in our own colonial possessions a field that is capable of almost unlimited expansion, and that a great part of the world yet remains outside the pale of our commercial influence. Many temperate regions of the earth still await cultivation. There is yet unlimited scope for the application of capital in the development of mineral and other resources, and in the extension of railway connections, in countries that are scarcely known to European civilisation. It may be argued that the process of opening out these regions will necessarily be a slow and tedious one, if it ever comes to anything at all. But those who thus argue appear to forget of how comparatively recent growth is our now enormous trade with the North American and Australasian Colonies. Perhaps a reminder on this point may not be without its effect. In each of the years 1840 and 1883, the exports of British produce were—

| | 1840. | 1883. |
|---|---|---|
| To North American Colonies . | £2,847,000 | £9,155,000 |
| „ Australian Colonies . . . | 1,939,000 | 24,216,000 |
| „ Cape of Good Hope . . . | 384,000 | 4,556,000 |
| „ British India . . . . | 6,023,000 | 31,874,000 |

In the case of these four markets, therefore, the increase of our export trade within the forty years ending with 1880 has been upwards of *six hundred and sixty per cent.* In other words, the value of our trade has increased nearly eightfold; or, put in yet another way, it has increased every five years to the extent of 100 per cent. on the value of 1840. The increase of volume, as distinguished from the declared value, has been greater still.

It is to be borne in mind that a percentage of increase

is not to be confounded with an increase of amount. The former may be very large, when the latter is inconsiderable, in relation to the same figures. But in this case the increase appears to have applied equally to amounts and percentages.

It is not pretended for a moment that the figures which illustrate the recent growth of our colonial trade are equally applicable to our commerce with other countries. In some cases, indeed, we have, in this latter respect, lost ground both absolutely and relatively. But on the whole, the condition of things has been progressive. This progress may be clearly traced throughout the tabular statement in the appendix, which shows the real value of our exports and imports of merchandise between 1840 and 1883. It appears therefrom that between 1854 and 1883, the proportion of the value of our imports per head of the population of the United Kingdom increased from £5, 10s. 2d. to £11, 19s. 9d., or over 100 per cent. In our export trade, the corresponding figures are £3, 10s. 2d. for 1854, and £6, 14s. 8d. for 1883, being again an advance of close on 100 per cent.

Even this method of calculation, however, fails to convey an adequate view of the real extent of our progress. For it is one of the most notorious of facts that, as between the two periods dealt with, the selling prices of our manufactured goods have been very much reduced, so that the same amount of value in 1883 would represent, as compared with 1854, a very much larger volume of business. One or two examples may be quoted. South Staffordshire bar iron, of which we export considerable quantities, was sold at an average price of £11, 10s. in 1854, whereas in 1883 it averaged just one half of that figure. Consequently the same amount of value in 1883 would represent double the volume of actual business. The average price of Scotch pig iron, of which we also export large quantities, was 79s. 9d. in 1854, and only

46s. 9d. in 1883, so that here again the range of prices was 72 per cent. higher in 1854. It is so much the same in reference to every leading item of export that it is probably not too much to aver that if the value of our exports per head of our population has increased during the interval in question by 100 per cent., the increase in the volume or quantity has been little short of double that amount.

A conclusion more or less unfavourable to the commercial soundness of England has often been drawn from the excess of imports over exports. The fallacies upon which this conclusion is based have been over and over again exposed and refuted. For this reason we shall content ourselves here with making only three remarks upon the subject, viz.:

1. That it always has been more or less a characteristic of British commerce, that the values of the imports were in excess of the exports, and that this is, and always must be, largely the case with manufacturing countries, as distinguished from purely agricultural or raw-material producing countries, seeing that the tendency of successful manufactures is to encourage a high price for labour, and thus to render it more profitable to import than to produce breadstuffs and raw materials generally.
2. That while the returns of imports are usually complete, those of exports are largely deficient, in respect that they fail to take account of—
   (*a.*) Profits on foreign investments returned to England,
   (*b.*) The value of shipping freights outwards, which are included in the returns of our imports, and thus create a serious difference that must be redressed before a just balance can be struck between the two.

3. That the commerce of England is on all fours with that of the other leading countries of the world in showing a balance that is nominally against exports.

It is a prevalent but pernicious error to suppose that England's trade with *all* foreign countries is larger in volume and value than that of any other single competing nation. This is very far from being the case. The truth is that Germany does a larger export trade than England with most European countries—with Russia, Norway, Sweden, Denmark, Holland, and Belgium. France carries on a greater export trade than we do with Belgium, Italy, and Spain; and a very notable feature of the case is, that while these countries have been making headway we have been relatively losing ground. In 1872 our exports to Holland were nearly double those of Prussia; in 1882 Prussia's exports were considerably above those of England. In the former year England's exports to Italy were about 1½ millions sterling less than those of France; in 1882 England's exports had not sensibly increased, while those of France had augmented to the value of nearly 3½ millions sterling. In 1871 our exports to Russia were about 60 per cent. of those of Germany; in 1881, they were only 49 per cent. In 1873, England exported to Norway and Sweden considerably more than Germany; in 1882 these countries received more from Germany than from us. Still more alarming is the relative falling off in our trade with Belgium, which, in 1872, received over two million pounds worth of goods more from England than from Germany; and in 1882 took 1½ million pounds worth more from Germany than from England. Nor, in spite of the much vaunted treaty with France, have we succeeded in maintaining our relative superiority in the import returns of that country. In 1872, France imported from Germany commodities of the value of 54

per cent. of her imports from England; in 1882, the imports from Germany were 65 per cent. of those from our own country. Coming, finally, to the United States, we find that whereas 40 per cent. of the total imports into that country in 1872 were from this country, the percentage of the total imports received from England in 1882 was only about 26 per cent., Germany having in the meantime improved her export trade to the States to the extent of 10 million dols., France to the extent of 45 million dols., Belgium by about 16 million dols., and Holland by about 6 million dols., concurrently with a decline of 53 million dols. in the value of the imports from the United Kingdom. Nor is the case of England made better when we come to examine the statistics of her trade with newer markets, whence better things have been hoped for. Between 1873 and 1882 there was an absolute decline in our exports to Chili, while those of Germany and Italy had increased. Our exports to China showed but a very slight increase (3 million taels) between 1872 and 1882, while those of the United States had increased about sevenfold, those of the Continent of Europe sixfold, and those of Japan had nearly doubled.

It behoves the British manufacturer and merchant seriously to consider how, and by what means, other nations have so far succeeded, as against English products. What, for example, do the United States receive from France and Germany that England cannot supply, and, above all, what do they receive from those countries in increasing quantities? If we look into the import returns of the United States we shall receive a complete answer to these questions. These returns show that of the total American imports of merchandise of all kinds, amounting in round figures to a value of 667½ million dollars (in 1884), about 244½ millions' worth was received from Great Britain and her dependencies, against 74½ millions' worth from France and French possessions, and 65 millions' worth from Germany; while it appears, as we have

already pointed out, that both France and Germany have been increasing their relative proportions of the whole. But if we further analyse the individual items, we find that France and Germany are not so much competing with England in our staple manufactures, as in commodities which England either cannot, or has not yet taken steps to produce. The United States do not now import the same relative proportions of luxuries and articles of necessity as they did about half a century, or even twenty years ago. America, as we have elsewhere shown, is becoming, nay, has actually become, a very rich country. With the acquisition of wealth comes the gratification of luxurious tastes and habits. The household gods of a simple squatter in his log-hut on a new clearing are as different from those of a Bonanza king, or railroad potentate in Fifth Avenue, as any two conditions can possibly be. Hence we find that it is almost entirely in products indigenous to the soil, or in *articles de luxe*, that France and Germany take the lead of England. Compiling a list of thirty such articles from the official report of the foreign commerce of the United States in 1884, we find that France and Germany unitedly supplied our transatlantic cousins with 140 per cent. more than England, the official value of the imports in each case being—

| | |
|---|---|
| France . . . . . | 13,500,000 dollars. |
| Germany . . . . . | 11,300,000 „ |
| England . . . . . | 10,631,000 „ |

Again, the United States are large importers of silk goods and wines, neither of which are included in the list of commodities from which the foregoing figures are made up. In 1884, wines to the value of over 2 million dollars were imported from France and Germany, while the imports from England reached less than a twelfth of that quantity. It is by no means certain that England might not be made to rival Germany in the silk manufacture, but that industry has always been indigenous to

French soil, and hence it is not surprising that France sends to the United States a greater quantity of silk of all kinds than both Germany and England put together, although it is not by any means equally obvious why Germany should contribute 50 per cent. more than our own country, which she does.

The consideration just stated is one that might with equal propriety be applied to every one of the thirty articles of luxury that have been referred to. Why should France send to the United States gloves to the value of ten times the quantity supplied by England? Why should Germany supply more than twenty times the value of dolls? What is there to prevent England from rivalling France in the manufacture and export of perfumes, artificial flowers, fancy jewellery, fancy buttons, corsets, beads, fans, brass ornaments, &c.? Why should German musical instruments be imported by America to the value of 1,295,000 dollars, and English to the poor tune of only 60,000 dollars? And why should the Germans be so superior in their mineral waters, coal-tar colours, and silvered-plate, that they have practically shut England out from the American market in the supply of these commodities? Whatever explanation may be afforded of these facts, the answer is not likely to support the howling of the fair-traders and protectionists. All Continental nations, like our own, have built up special industries by a steady and careful regard to their requirements. In those special industries, their artisans have attained superior skill and aptitude, as our own operatives have done in cottons and woollens. Other industries, again, such as the sardine trade of France, and the mineral-water and coal-tar colour industry of Germany, have been built more or less upon special local resources, and England is not so destitute of such resources that she need grudge them to others. But, in a general way, it may be affirmed with the utmost confidence that, in regard to industries that are followed on a large scale, England remains *facile*

*princeps*. Take the woollen industry as a case in point. There may be special reasons why England should excel in the iron and steel industries, or in copper, or tin, or lead. Each of these are peculiarly indigenous to English soil. But why should England supply the United States, as she did in 1884, with woollen goods that equalled in value the supplies of France and Germany put together? These goods were not, for the most part, produced from English wools, but from foreign; and the supplies of such foreign wools are as much at the command of other countries as of England, while in Europe, at any rate, no other country is called upon to pay such a high price for labour. The reasons that have thus enabled England to keep to the front in woollens and cottons are very much analogous to those that have enabled Continental nations to rear the very considerable fabric of minor industries already spoken of. No single nation can expect to be equally to the front in all manufactures. Climate, soil, natural products, the genius and character of the people, and many other varying circumstances conjunctly determine what shall be special to each.

The foregoing facts require to be set off against the enormous growth of our Colonial trade, to which attention has already been directed, and prove incontestably that England has no monopoly, nor even a necessary supremacy in neutral markets. The ground that she has lost, however important, is small when compared with that which she has gained. But she is continually being admonished that her unique commercial position is only to be maintained by the utmost vigilance, energy, and care—that she is confronted, "brow to brow," in all neutral markets by rivals that are keenly alive to every chance of assailing that position, and that have already, in many cases, taken its outworks. How far England is prepared and preparing to meet these rivals in the future will be shown elsewhere.

In considering the future of British commerce, one

instructive lesson may be learned from a comparison of the relative circumstances of our various Australasian colonies, as we are thereby enabled to estimate what has been attained by some, and what remains to be attained by others. In 1882 Western Australia had 31,798 miles of territory for every 1000 inhabitants; in Victoria the area was only 97 miles for the same number. Western Australia only exported goods to the value of £0.59 per square mile, while the exports of Victoria were £143.03. Western Australia had only 0.031 inhabitants per square mile of territory; Victoria had 10.311. The other five Australasian colonies varied between these two extremes. Who shall say how soon the average area of 1049 miles per 1000 persons over the whole of the Australasian colonies may be reduced to the 97 miles' average of Victoria? and who is bold enough to predict when the average of 10.311 inhabitants per square mile of territory in the latter colony shall take the place of the 0.953 inhabitants per square mile found for all the Australasian colonies in 1882?

The British Government has recently appointed a Royal Commission "to inquire into the extent, nature, and probable causes of the depression now or recently existing in various branches of trade and industry." There is some reason to suppose that a not inconsiderable section of the community both hope and expect that this inquiry may result in the imposition of tariff duties designed to exclude foreign manufactures from English markets, and possibly also to enable the special industry of agriculture to struggle more successfully against American competition in bread-stuffs. With these objects in view, the country has been deluged with protectionist literature, under the thinly-disguised veil of fair-trade. The British farmer is very clamorous in his demand for a duty on corn. The British artisan appears disposed to believe that if foreign manufacturers were entirely shut out, the effect would, in some mysterious fashion, rid him of all

his troubles. The most loyal and patient free-traders are not without serious cause for discontent with the existing condition of things. The Premier himself has more than hinted that if the country wills a return to protective duties, under certain limitations, the Government would not throw any very serious obstacles in the way of such a policy. Free trade is now more than at any previous period on its trial. The crisis is pregnant with important issues, and it needs that we should briefly examine their character, scope, and tendencies.

The first thing that occurs to any one who looks into the existing depression of trade is its general accord, in all essential features, with previous crises of the same kind, that have passed away to be succeeded by another and still more remarkable "boom" of prosperity; the second that, so far from being limited to the United Kingdom, it is of almost world-wide operation.

There is no need that the first of these considerations should be argued; it is notoriously a matter of fact. With regard to the second, it is interesting to compare the position of free-trade England with that of the greatly-protected United States of America, as we shall thereby be enabled to see how far free-trade has hurt the one, and protection has shielded the other.

An examination of the Board of Trade returns shows that the exports of British produce reached their maximum value in 1872, when they amounted to over 256½ millions. This sum was an increase of 33 millions on the previous year, and was augmented to this extraordinary extent, not so much in consequence of a greater volume as because of a very considerable increase of values. From 1873, however, the increase took a very sudden and continuous downward movement, which is reflected in the diminished declared value of our export trade, both as a whole, and in each of its component parts. This tendency received a check in 1880, when the officially-declared value of our exports showed an in-

crease of nearly 24 millions on that of the previous year. In 1881 there was a further increase of about a million, and in 1882 an additional increase of over seven millions, so that between 1879 and 1882, the declared value of our exports increased by exactly *fifty millions sterling*. Up to this point, therefore, there is certainly no sign of decay. In 1883 our exports showed a decrease on 1882 to the extent of rather more than a million and a half, and in 1884 there was a further decline of several millions. The latter appears to have occurred mainly in our exports of iron and steel, consequent upon a reduced consumption of railway iron all over the world, but no one who has studied the history of the applications of iron can believe that this is otherwise than a temporary check.

If, now, we look into the export returns of the United States, we shall find that the last two or three years of depression have affected the commerce of that country even more unfavourably than our own. The decline in the aggregate value of the exports of the United States between 1881 and 1884 has been not less than 162 million dollars, or *nearly* $32\frac{1}{2}$ *million pounds sterling*. We have seen that, as between 1879 and 1882, the value of exports of British produce increased by *fifty millions sterling*. We now find that, comparing the same years, the value of the exports from the United States increased by *only eight millions sterling*, so that there is a balance of *forty-two millions sterling* in favour of British exports.[1] In other words it is clearly proved that in spite of all the protection that her industries enjoy, and of her enormous natural resources, American trade, as tested by exports, has not been so flourishing as that of England.

But it is frequently urged that, even if we are continuing to maintain the volume of our exports to other countries, our manufactures are carried on with little or

[1] It is, however, proper to observe that both in 1880 and in 1881 the exports of the United States were above those of 1882, mainly because of large deliveries of bread-stuffs.

no profit to the producers; and that it is desirable to take measures to raise the average standard both of profit to the capitalist, and of wages to the wage-earner. So far, so good. Again, however, we find that in prosecuting industry with an unfortunately too conspicuous absence of profit, England is not alone, and if we prove that the utmost measure of protection has failed, when trade is suffering from such general depression as now prevails, to secure exemption from attenuated profits, we may reasonably claim to have shown that protection would not differently affect our own manufacturers.

In another section of this work detailed reference has been made to the average profits of industry in different countries; and on a general comparison of America and the United Kingdom over a period of years, the American average will, no doubt, be higher, as one would expect it to be in a country where the average rate of interest is usually double, or even more, that of our own. But it is, at the same time, probable that American profits are subject to greater fluctuations. At any rate we are able, from American sources, to indicate in a general way what the condition of profits has been during the past two years, and if English industry, as a whole, shows a worse state of affairs its course must have been troublous indeed.

In the annual report of the Bureau of Statistics of Labour of Illinois for 1884, there is a very comprehensive inquiry into the profits and earnings of a large number of local industries for that year. The result of that inquiry, so far as profits are concerned, is thus stated:—"Out of 1666 establishments (which made returns) only nine show a gross loss—that is, the value of the product, in these cases, was less than the cost of the material and labour used in its manufacture aside from the running expense account. A gross profit is shown by 1657 establishments, or 99 per cent. of the whole, and a nett profit by 1128, or 68 per cent., whereas 530, or 32 per

cent., indicate a nett loss; that is, about one-third of these establishments, after deducting from their gross profits 6 per cent. on their capital, as interest, and ten per cent. of the value of the product to cover incidental expenses, find their balances against them." By a similar investigation, undertaken by the Labour Bureau of Massachusetts in the previous year, it was found that 33 per cent. of the 2440 establishments engaged in the twenty-one industries peculiar to that State showed a net loss on the year's working.

Some may not unreasonably suppose that the industries that have been carried on unsuccessfully are probably such as ought never to have been undertaken, not being suited to the State or country. The answer to that objection is very simple. Of the total number of establishments engaged in building, 57 per cent. showed a nett loss; of those in cured and packed meats, 88 per cent.; of those producing flour and meal, 75 per cent.; of those engaged in the leather manufacture, 51 per cent.; of those making railroad cars and materials, 64 per cent.; and of those producing woollen goods, 62 per cent. Here, then, we have seven great and indigenous industries, out of the thirty-four dealt with by the Illinois Bureau, in which one-half or m[illegible] of those engaged in them failed to clear a nett profit [illegible]nd if these industries, or a majority of them, are not [illegible] to such cities as Chicago, where can they be f[illegible] with any hope of success?

Again, it is not unnatur[illegible] distrust should be expressed as to the conclusio[illegible]rived at by a Bureau of the kind referred to, not b[illegible]se of any conscious error, or preconceived desire to [illegible]how a certain result, but because the agents employ[illegible]d by it may fail to obtain all the data necessary to a really accurate presentment of the facts. This objection, however, is not likely to apply to the reports of private manufacturing companies, which

[1] Report of Bureau for 1884, p. 120.

are annually issued to their shareholders, and are intended for them alone. From the reports of thirty-one such companies in New England, *Bradstreet's* recently compiled a statement which showed that fourteen of them in 1884 paid under 5 per cent.; and that in 1885 (to June 30th) 15 paid no dividend at all. This sort of experience has been so general during the past two or three years that similar cases could be largely multiplied.

If it be true that "misery likes company," the British manufacturer, in his low estate, is not without a large measure of consolation. As in the United States, so on the Continent of Europe. As on the Continent, so in India and some of our colonies. The depression of trade that now gives us so much concern, and for which so many heroic remedies are proposed, is not limited to any one country, and is not to be associated specially with England's industrial decay any more than with that of other countries. Into the merits of these so-called remedies we shall not attempt to enter. They are generally of two kinds—either that of heavily taxing foreign manufactures on import, or allowing bounties to specially afflicted industries. Judging from all past experience and analogy, neither could be expected to produce the results at which they aim, and if they succeeded in temporarily assisting particular interests, would only do so at the expense of the general community. A tax on imported corn would be borne by the working-classes as a whole. An import duty on manufactured manufactures would be likely to give an unhealthy and unnatural stimulus to certain trades that are probably not so well suited to English resources as those in which we have attained such well-deserved pre-eminence. The future will utterly belie the lessons of the past, if the only real remedy is not to be obtained by patient continuance in the system that has already done so much for English commerce—that of cultivating the imports, and letting the exports take care of themselves.

# CHAPTER IX.

## *MECHANICAL APPLIANCES AND PROCESSES.*

"Cheapness and goodness is, and always will be, the great master and comptroller of trade."—YARRANTON.

If the industrial history of England were fully written, it is probable that its most interesting episodes and its most valuable lessons would be found to be connected with the development of labour-saving machinery and processes. The growth of machines from their rudest conceptions to their most perfect forms; the wonderful economy thereby induced in all arts and manufactures; the displacement of labour thus created, and the legion of new occupations or forms of labour called into existence; the opposition offered to the introduction of machinery in the place of hand labour, both by the greed and malignity of vested interests, and by the shortsightedness and ignorance of the working classes; the cheapening of commodities, and the consequent general amelioration of social and economic conditions resulting from improved methods and processes of production; the efforts made by interested parties to secure monopolies of valuable inventions, and to limit their advantages to a particular country or district: these are but a few of the interesting phases of the question we are now about to consider.

It is not much more than half a century since a committee appointed to inquire into the causes of the depreciation of labour in Great Britain came to the following conclusion:—"That the privation and distress of the

British artisan and labourer are further aggravated by the increasing manifestation of the efficacy of the power of steam, and its unrestrained application to every purpose, and every object, heretofore performed by the hand of man, thereby diminishing the demand for human labour, whilst the supply of labour increases, and, consequently, tending still further to diminish the remuneration for such portion as is called into action; and whilst the income of the annuitant, peaceman, pay-receiver, and pensioner of the Government, remains fixed and permanent, and whilst the burthen, and all the consequences resulting from that inordinate extent and pressure of taxation which sustains those fixed incomes, remain with undiminished force and pressure on the artizan and labourer, with their progressive diminution of power and means to bear it."

The temper and tendency of labour in reference to mechanical appliances in the earlier years of the century are sufficiently evident from the foregoing citation.

The industrial and commercial supremacy of England, especially in reference to improved methods of manufacture, has undoubtedly owed very much to the encouragement which she has afforded to the settlement of foreigners, who carried over with them a knowledge of trades and handicrafts that were then but little known. Toleration for all forms of religion; absolute civil and religious liberty; a cordial welcome to all refugees who sought a refuge within her boundaries from the persecutions that drove them from their own country; a ready recognition of the superiority of processes and methods thus introduced; absence of jealousy in reference to the position of those who could teach what she had not yet learned; and an energetic application of whatever additions were thus made to her stock of knowledge—these have had quite as much to do with the realisation of England's present unique place among the nations, as her stores of coal, the fertility of her soil, or her mari-

time advantages, great though these have admittedly been.

It is remarkable how many of the inventions and manufactures with which England in later years has become pre-eminently identified have been of French or German parentage. The woollen manufacture owed a great deal to the Flemings, who were compelled to leave their own country in consequence of an inundation of the sea. The silk trade was introduced by a number of French refugees who came over to England after the revocation of the Edict of Nantes. The manufacture of cutlery was introduced into the North of England by German settlers. Examples of the sort might be multiplied to an almost unlimited extent. The truth is, as expressed by Jevons, that "almost all the arts we practised in England, until within the last century, were of Continental origin; England, until lately, was young and inferior in the arts," and as a proof of this it is stated that "the horse-gin, the double reversing water-wheel, the chain pump, ventilating contrivances, such as bellows, fans, lamps, furnaces, together with the underground wheeled-carriages, were introduced from Germany."

But if, until perhaps about a hundred years ago, England was behind other countries in reference to the fertility of her inventive resources, she has amply redeemed her character and asserted her supremacy in the period that has since elapsed.

The steam-engine of Watt, the locomotives of Trevethick and Stephenson, the spinning frame of Arkwright, the mule jenny of Crompton, the spinning jenny of Hargreaves, Kaye's fly-shuttle, Cartwright's loom, Cort's grooved rolls, Neilson's hot blast, Bessemer's pneumatic process, Siemens's regenerative gas furnace—these are but a few of the inventions and processes that have given England her proud pre-eminence among the manufacturing nations of the world, and have associated the English name with the most valuable and beneficent

ameliorations of the human race. Most of these inventions are less than a century old. The priority in their application which was secured to England by the fact of their initiation conferred advantages which remain with us to the present day. Power, the commodity that Boulton undertook to furnish, was wanted by all the rest of the world, and that article we continue to supply.

The extent to which the introduction of steam-power and labour-saving machinery has benefited mankind is too obvious to require that we should dwell upon the subject in any detail. There is no fact that a history of prices more conspicuously brings out. Babbage has shown that, as a result of such improvements, the cost of a large number of articles in everyday use, of which he had obtained the selling prices for each of the years 1812 and 1832, had decreased in that interval by 50 to 90 per cent.[1] Of twenty-one articles in the list which he has cited, twelve had been reduced in price by over 60 per cent. Instances of this character might be multiplied *ad infinitum*. The tendency has been universal. The more elaborate and complicated the process of manufacture, the greater, in a general way, has been the reduction of price induced by mechanical improvement. Perhaps the most signal example of the tendency is found in the woollen manufacture. Two hundred years ago it required ten men and twenty-five women working sixty-one days to produce a piece of cloth that could now be made in almost as many hours by a couple of operatives.

The great difference in the cost of the manufactured article between 1800 and 1830 was, of course, due to the introduction in the interval of power-looms and other mechanical aids to labour. Mr. Baines states that at the earlier period, every good *hand-weaver* could weave *two* pieces of nine-eighths shirting per week, each 24 yards long, and containing 100 shoots of weft in an inch. In

[1] "Economy of Manufactures."

*power-loom* weaver, about 15 years of age, *two* looms, could weave *seven* similar pieces k; in 1826, a power-loom weaver, of 15 years tending to four looms, could weave *twelve* similar a week; and in 1845 a power-loom weaver, o years of age, and assisted by a girl of 14, could wenty-two similar pieces in a week.

ery interesting example of the dual effect of free ts and improvements in mechanical appliances is l by Porter.[1] It is in the form of an estimate of pense of materials and labour for building a 74-gun of 1706 tons, in each of the years 1805 and 1836. shown that in every item of cost, except one of most trifling, there was a material reduction in later as compared with the earlier period. The ct of these joint reductions was that, whereas the ship 1805 cost an average of £36, 11s. 3d. per ton, that 1836 only represented an average cost of £26, 4s. 7d. r ton. In other words, the average cost per ton was 3 per cent. more in the former than in the latter year. he difference in labour is one of the most striking of he many items embraced in this computation. Ship-vrights' labour amounted to £4, 12s. per ton in 1803, nd to only £3, 3s. per ton in 1836; the labour of ordinary labourers was reduced from 12s. to 7s. per ton; that of caulkers from 12s. to 10s.; and that of smiths from £2, 5s. to £2 per ton.

The remarkable efficiency which mechanical appliances and improvements have introduced into the economy of modern nations may be illustrated by the example of a marine engine, which is at once one of the most perfect and one of the most complicated of machines. A recent writer has calculated that the engines of a first-class Atlantic steamer contain 6000 parts, with 2270 boiler tubes, 4456 condenser tubes, 64,888 rivets, 10,407 nuts, 3000 studs, 7868 bolts, 1582 boiler stays, 1356 furnace

[1] "Progress of the Nation," ed. 1847, p. 596.

bars, and 1144 pins. These are all, of course
ary; but such an engine has, in addition, 100
parts, 23 auxiliary engines, and 271 steam pi
valves, 37 levers, 24 furnaces, and 172 pieces
ing to its pumping-out arrangement, not to sp
whole legion of nuts and pins. The tendency o
engineering has been towards the increased multi
of parts. Increased efficiency may thereby be pu
at the expense of simplicity and economy of constr
but this is a debateable and much-debated engin
problem, the solution of which necessarily varies a
ing to the circumstances of the case, and into the
of which we cannot pretend to enter.

The question of what particular nation enjoys
advantage of having the best and most complete sy
of labour-saving machinery is often asked in the co
of discussions as to the comparative industrial prog
of different countries. This is not by any means
matter that can be settled off-hand. On the contra
it is one that can only be resolved by patient and ca
ful investigation into the comparative circumstances
each industry.

One thing is beyond all dispute. The time has lon
gone by when political economists doubted whethe
machinery was not a grievous evil, having regard to it
immediate tendency to throw hand-labour out of employ-
ment. All classes, not even excepting the most illiterate
of working men, are now disposed to admit that, as
M'Culloch puts it, "improvements in machinery are
similar in their effects to improvements in the skill and
dexterity of the labourer;" and that "although such im-
provements sometimes force workmen to change their
employments, they have no tendency to lessen the effec-
tive demand for labour."

We have already indicated that it is practically impos-
sible to compare one country with another, as regards the
extent to which machinery is efficiently employed, without

entering into a dissertation on each particular manufacture, which, in a work of this kind, is quite out of the question. It would, in the first place, require an expert to deal with each industry, and to deal with it, too, in no perfunctory fashion, but with every synthetical and analytical aid that his experience and special knowledge could suggest. And even then, it would scarcely be possible to state opinions or conclusions in which all would agree, seeing that there is just as much difference of view among machinery users as to what is, under given circumstances, the best machine to adopt, as there is among denominationalists as to the most excellent creed. Take the single example of a newspaper printing-office. Some will express a preference for the Walter, others for the Marinoni, others for the Victory, and others again for the improved Hoe machine. Each machine is required to perform exactly the same function—namely, to produce a given number of printed newspapers in a given period of time, and each, in its way, may fulfil that mission equally well; but there are, nevertheless, great differences between one and another—differences of first cost, of liability to get out of repair, of durability, of compactness, of what engineers understand as "getatability," and so forth.

It is not so long since the greatest possible amount of jealousy pervaded most of the great industries of the world, as to allowing rival manufacturers, and especially foreign rivals, to witness the working of a new machine. Even yet this feeling prevails to a large extent in many of our great workshops. It is felt, indeed, that the protection afforded by the patent laws is not sufficient for the purpose. The great cost and trouble involved in getting out a patent deters many from patenting minor improvements, each, perhaps, of small account in itself, but contributing, as a whole, to a considerable economy of production. There can, however, be little doubt that this jealousy and exclusiveness has been greatly broken down within recent years. And what has been the

result? Why, simply this, that manufacturers all over the world either are, or have the means of being, very much on an equality with each other, *so far as appliances and processes are concerned.* The superiority of one factory, or district, or country, over another, is not now, therefore, as it used largely to be, a superiority based upon a greater command of labour-saving machinery, so much as upon natural resources, proximity to supplies of raw materials, to a shipping port, or to convenient railway facilities, reasonable rates of freight, moderate wages and efficient labour, general competence of administration, resulting from a sound training and experience, and that technical education which has done so much to raise continental nations to an absolute equality with our own. We may depend upon it, that as competing nations increase in wealth and in manufacturing skill, they will not be long behind our own in the efficiency of their labour-saving appliances. In some respects, indeed, England is even now lagging. It is certain, as we have elsewhere pointed out, that America employs implements of husbandry much more largely than England, and that, as a result, American agriculture employs considerably less labour for a given result.

Tools and implements cannot, however, be provided without capital. In agriculture, as in manufactures, improved processes and methods of working have involved the use of machinery on a much more extensive scale than formerly, and, consequently, the possession of a larger capital for any given result. Young, in his "Northern Tour," calculated that the average agricultural capital of England would amount to about £4 an acre in 1770, giving a total sum of 128 millions sterling. M'Culloch, in 1853, estimated that the average capital employed in agriculture would not be less than £6 to £7 per acre, giving a total of about 208 millions of pounds. At the present day it requires a much larger capital even than this to stock a farm properly. The

Royal Agricultural College experimental farm at Cirencester, extending to 500 acres, is stated to have involved an expenditure, for implements alone, of about £2, 10s. per acre. If all the land under cultivation in the United Kingdom were stocked at the same rate the amount of capital embarked in agricultural implements would not be less than 125 millions sterling. From this point of view it is consolatory to know that, if we are now behind some other countries, we have at any rate more ample means wherewith to keep up our mechanical efficiency than most.

There are those who suppose that countries possessed of an abundant water supply have a considerable advantage over others that are necessarily dependent on steam power. But this, after all, is doubtful. The report of the Royal Commission on Technical Instruction, states, in reference to the case of the Windisch cotton mills, on the Lake of Lucerne, that the turbines required for the supply of the water-power, with the canal, embankment, &c., cost over £70,000, or almost as much as the mills themselves; and they quote the opinion of the managing partner to the effect that "the annual cost of maintenance, taking into account the ravages of floods, is incomparably greater than that of engines and boilers." It is also to be considered that "water-power is nearly always, as in this case, inconveniently situated, far away from the markets for the purchase of the raw material, and for the sale of the manufactured goods." In the United States, water power, though abundant, is rapidly being superseded by steam.

Apart from minor exceptions, which it would be both impolitic and uncandid to ignore, there is ample reason to believe that England's supremacy in regard to the extent and efficiency of her mechanical aids to production is still unapproached, but it is not therefore unapproachable. This is so obvious, that many whose views are entitled to great consideration have questioned the

policy of giving to foreign nations the free and unrestrained access that is now generally permitted to our factories and workshops, or in other words, to an intimate knowledge of whatever advantages we may possess over them in respect of mechanical improvements. The controversy is an old one, and it was settled, as far as it ever will be settled, more than half a century ago. The prohibition of the export of machinery, which was a distinguishing feature of England's economic system until recent years, could never be revived to any purpose. The monopoly which England for a time enjoyed in this regard can never again be hers. Continental nations possess mechanicians and engineers as talented as our own. Some, indeed, are in advance of England in respect of that system of technical training which is at the root of mechanical superiority. And it is not to be disputed that if other nations gain much from us, they give us much in return. There is not, there cannot be, any one-sided advantage in this respect. Exhibitions are increasingly fulfilling their highest function, which is that of breaking down exclusiveness and making the whole world, as to inventions and processes designed to economise labour and cheapen production, as if it were but one nation.

If it were necessary to prove this thesis, it might be pointed out that the penalty that inevitably waits upon the nation, as upon the individual, which shuts itself up in exclusiveness and self-conceit, is well illustrated in the case of the Chinese Empire. The early records of China prove the existence of a high degree of civilisation and culture. Even so recently as 1688, a writer of some note stated that the Chinese "do all manner of mechanick work with a far less number of tools, and with more care than we do. For as in this country, here is not a foot of land that lies wast, so there is not any man or woman, young or old, lame, deaf, or blind, that has not a way to get a livelihood, or that has not some trade or employment. Everything has its use and may turn

to profit. For example, in the city of Pekin alone there are above a thousand families who have no other trade to subsist on, but only by selling matches for tinder-boxes, and wicks for candles. . . . Navigation is so common and so universal in this kingdom that there is hardly any city or town, especially in the southern provinces, that does not enjoy the benefit of some river, canal, or navigable arm of the sea, insomuch that there are almost as many inhabitants upon the water as upon the dry land."[1] As China was then, so it is to-day. While other nations have been progressing by "leaps and bounds," China has stood still.

But while England may still claim superiority, she is certainly not so far in advance of other manufacturing nations as formerly. A Committee of the House of Commons (on the export of tools and machinery) reported half a century ago as follows:—

"Supposing, indeed, that the same machinery which is used in England could be obtained on the Continent, it is the opinion of some of the most intelligent of the witnesses that a want of arrangement in foreign manufactories, of division of labour in their works, of skill and perseverance in their workmen, and of enterprise in the masters, together with the comparatively low estimation in which the master-manufacturers are held on the Continent, and with the comparative want of capital and of many other advantageous circumstances detailed in the evidence, would prevent foreigners from interfering in any degree by competition with our principal manufacturers.

"It should also be observed, that the constant, nay, almost daily, improvements which take place in our machinery itself, as well as in the mode of its application, require that all those means and advantages alluded to above, should be in constant operation; and that, in the opinion of several of the witnesses, although Europe were possessed of every tool now used in the United

[1] "A New History of China." By Gabriel Magaillans. London, 1688.

Kingdom, along with the assistance of English artisans, which she may have in any number, yet, from the natural and acquired advantages possessed by this country, the manufacturers of the United Kingdom would for ages continue to retain the superiority they now enjoy.

"The many important facilities for the construction of machines and the manufacturing of commodities which we possess are enjoyed by no other country; nor is it likely that any other country can enjoy them to an equal extent for an indefinite period. *It is admitted by every one that our skill is unrivalled; the industry and power of our people unequalled; their ingenuity, as displayed in the continual improvement in machinery and production of commodities, without parallel and apparently without limit.*"

The ineffable complacency of the framers of this report accords scarcely with the experience we have gained in the interval that has elapsed since it was issued. Probably, indeed, there is not a single sentence in the whole report that would not now be deemed at variance with the facts. At any rate, there is certainly nothing in the nature of the case that should hinder rival nations from possessing whatever mechanical advantages England may enjoy. The competency of the labour by which that machinery is directed is quite another branch of the subject, which has elsewhere received a due share of consideration. In the industrial infancy of nations, the absence of special technical knowledge and of adequate capital may exercise an influence unfavourable to competition with older and more firmly-established sources of supply. But these difficulties have long since ceased to operate with the principal industrial countries of the world. Assuredly no European nation need now fail in introducing a new process or mechanical improvement because it could not be understood, or because of its cost. Other nations carry out their manufacturing operations on a scale quite as large and as advanced as

England. Some of the largest cotton factories in the world are in Massachusetts; the largest cast steel works in Germany; the largest copper works in Michigan; the largest watch factories in Lowell; the greatest silk factories in France and Switzerland. And there are few industries now followed equally in England and abroad, in respect to which foreign countries cannot give as well as receive lessons that are well worth learning.

It is remarkable how entirely public opinion has changed in reference to the economic results of machinery. Sismondi gravely argued that "the invention of machinery which would produce cottons 5 per cent. below the present prices would occasion the dismissal of every cotton-spinner and weaver in England, while the increased demand for other commodities, occasioned by this trifling saving, would hardly afford employment for 5 per cent. or one-twentieth of the disengaged hands; so that were an improvement of this kind to take place, the vast majority of these persons must either be starved outright, or provided for in the workhouse."[1] It was reserved for M'Culloch and Mill to explode such old-world notions. But even yet we find that working men sometimes evince a strong objection to test a new process or machine, and employers are often deterred from taking new departures because of the trouble they will occasion with their *employés*. This trouble is not now expressed in the way that was characteristic of the stocking-frame breakers and Luddites. It more frequently takes the form of "cussedness," of persistently refusing to give the new thing a fair trial, and of pronouncing it a failure without any reference to its real merits.

In spite, however, of the many obstacles offered to their improvement, mechanical aids to production, as we have seen, have made wonderful progress within recent years, both in our own and in other countries. There is not a single manufacture that can be named, except,

[1] "Nouveaux Principes," tome ii., p. 325.

perhaps, that of pottery,[1] in which the work of the labourer has not been greatly lightened, and the production of a given amount of work in a given time enormously increased by the use of labour-saving appliances.

It is but the tritest of truisms to remark that manufactures, by admitting greater economy in production from the use of labour-saving appliances, are of the utmost importance to a country's prosperity. A striking example of this superiority of mechanical industries to agriculture or working in raw materials, so far as the money result is concerned, is furnished by Babbage. According to that writer, £1 worth of copper, when woven into certain varieties of metallic cloth, became worth £52; £1 worth of bar iron, when worked into twisted and damasked gun-barrels, became worth £238, when made into the blades of pen-knives it became worth £657, and when made into buckles of polished steel, to be used for personal adornment, it rose to £896. These, of course, are extreme cases of increased value; but in all manufactures the tendency is the same, namely, to confer upon the raw materials of which they are made a great access of worth, represented almost exclusively by the cost of labour. If, then, by a better process or method, the cost of this labour is reduced by one-half in any one country as compared with all others, the difference may be regarded, so long as it lasts, as so much clear gain. With the question of how this gain is, or should be, disposed of, we have nothing here to do.

It would be interesting, and not without some considerable value, if it were possible to analyse the comparative circumstances of England and her rivals in manufacturing industry as regards the relative extent of the differences due to variations in the character of the machinery employed, and in the wages paid to labour. If such differences could be estimated with mathematical

[1] The potter's wheel is much the same machine to-day as it was in the time of the Pharaohs.

accuracy, they would at once determine, as regards its most essential conditions, England's true place in the race for manufacturing supremacy. In another part of this work evidence has been afforded as to England's relative position as regards the rate of wages paid in industrial employments. But there is a too prevalent habit of assuming that the rate of wages paid determines the cost of production. It is, no doubt, a very important determinant of such cost, but it is by no means the sole, nor even necessarily the principal one. Efficiency of labour, in which we include the economy of the machinery employed, is generally a still more important factor in the problem. Were it otherwise, it must be evident that the high-paid labour of America and England would have no chance against the very ill-requited labour of India and Japan. If wages alone were to settle the question, the industries of Manchester would be transferred to Yeddo, those of Birmingham to Bengal, Warora would take the place now filled by Pennsylvania, and Sheffield and Pittsburg would "pale their ineffectual fires" before the rising sun of Calcutta and Madras.

That the industrial supremacy of any country or district is not necessarily dependent upon cheap labour is a proposition that certainly admits of ample proof; but it would scarcely be possible to supply more convincing evidence of the fact than is afforded by the history of Irish industry. In the nature of the case, there is no good reason why the cotton and woollen industries should not flourish as well in the sister isle as in England. On the contrary, Belfast and Dublin can supply much cheaper labour, and far better facilities of sea transport, than either Manchester or Leeds. Both of these great manufacturing centres are, indeed, at obvious disadvantage as compared with the chief Irish towns in respect of their distance from the sea, and the consequent necessity of "breaking bulk," in the receipt and despatch of their goods. Then, again, the Irish ports are nearer to the

source whence the raw materials are obtained than any English manufacturing centres, which of itself, although perhaps a slight, is yet an obvious advantage. And yet, in spite of all this in its favour, as appearances go, industry does not readily take root in Ireland.

There can, we think, be very little doubt that the reason why Ireland does not, like England, support a flourishing industry, is to be found in her inability to maintain that efficiency of production which accrues from skilled and well-directed labour, aided by the most capable and economical mechanical contrivances. It is the same defect that prevents India and other countries similarly circumstanced from competing with countries that have so much more highly paid labour; and it is the converse condition of things that enables England at once to pay so much more for labour than the countries named, and to render their competition apparently next to impossible. The efficiency of her means of production is, perhaps, the strongest point in England's industrial armour, if not also the most invulnerable. Her people are naturally inventive and "handy." They are seldom satisfied with things as they are. Where another nation would "rest and be thankful," they decline to admit finality. And to this catalogue of inherent and characteristic qualities, they add the acquired advantages of great command of capital, a reputation, not hitherto greatly tarnished, for producing good as well as cheap commodities, and unrivalled facilities of access to the markets of the world. With all these points in her favour, England is not to be easily beaten. The race, however, is yet far from having been fully run. It is remarkable what an amount of scope still exists for the application of mechanical contrivances, even to the most common of domestic occupations. It has been calculated that if bread-making by machinery were to be generally adopted, the number of persons employed in this labour would be reduced to one-fifth of what it now is. Laundry work and the labour of

washerwomen may be greatly economised in the same way; while if tailors and dressmakers were to make a more extensive use of the sewing machine, their numbers and their labour would alike be largely reduced. In the building trade, the labour of the hodman might largely be dispensed with by the simplest of mechanical arrangements; and the number of bricklayers, it has been calculated, might be reduced from nearly 50,000 to considerably less than half that figure if the newest type of brick-making machines were universally substituted for hand labour. Examples of the same kind might be multiplied indefinitely. Who shall say, then, how many unborn Watts, Arkwrights, Stephensons, and Bessemers may yet arise, to fill the page of history which tells of the future revolutions of industry.

## CHAPTER X.

### *THE REMUNERATION OF LABOUR.*

THE fact that the earnings of labour, whether skilled or unskilled, whether of the head or of the hand, whether of the male or of the female sex, has greatly increased within recent years, is so obvious that it needs not many figures for its elucidation. It may not, however, at the first blush be equally manifest that this increase of wages is a matter that greatly affects our national supremacy. It would not be a difficult matter to show that nations in which the range of earnings run rather low are yet comparatively prosperous, nor would it be impossible to establish the converse proposition, that high wages and national decrepitude are to be found going hand in hand.

These considerations notwithstanding, it will probably be generally admitted that the average comparative and relative earnings of labour is a matter that has not a little to do both with the maintenance of national supremacy in the abstract, and of that of an essentially manufacturing country like England in particular, for the following among other reasons:—

1. That if the resources of all manufacturing countries, and the efficiency of the labour at command, were about equal, the nation that could show even the slightest advantage in regard to cost of labour, would be likely to have the best chance in the competition for neutral markets.
2. That a sufficient, though not necessarily a high rate of wages, is needed to maintain the efficiency of labour.

3. That the nation that is compelled to pay an exceptionally high price for labour, must, *cæteris paribus*, find itself at a disadvantage in the race for supremacy.
4. That if the wages of labour show a tendency to increase in one particular country more rapidly and largely than in others, there is a reasonable presumption that the prospects of that country, however temporarily bright, will be placed at some ultimate disadvantage thereby.
5. That as the cost of manufactures is in the long run almost entirely made up of the wages of labour, the relative cheapness or dearness of that commodity (considered of course in reference to efficiency as well as in regard to nominal amount), must chiefly determine the status of a nation in industrial affairs.

Having said so much by way of justifying the importance of this branch of our subject, let us now trace the course and tendency of the earnings of labour in different countries, in order that the real position of England in reference thereto may be appreciated. And first of all let us examine the condition of agricultural labour at different periods. Mr. Thorold Rogers gives the following statistics of English agricultural wages at different dates[1] without board or lodging:—

| | s. | d. | | | |
|---|---|---|---|---|---|
| 1767 to 1789 | 7 | 6 | per week. | | |
| 1799 to 1803 | 10 | 0 | „ | | |
| 1804 to 1810 | 12 | 0 | „ | | |
| 1811 | 12 | 9 | „ | | |
| 1814 to 1818 | 10 | 6 | to 10 | 10 | per week. |
| 1819 to 1821 | 8 | 6 | to 9 | 0 | „ |
| 1821 to 1822 | 8 | 0 | | | „ |
| 1824 | 9 | 4 | | | „ |
| 1857 | 10 | 4 | | | „ |
| 1860 | 11 | 7 | | | „ |
| 1866 | 13 | 0 | | | „ |

[1] "Six Centuries of Work and Wages."

As far as they carry us, these figures show that in the hundred years ending with 1866, the wages of agricultural labour in this country increased about 100 per cent. Many corroborative returns of wages might be adduced, but these may suffice to show the tendency of earnings over the period in question.

Since 1866, there has been more or less increase of the rate of wages paid for agricultural labour in this country, and, to a smaller extent, on the Continent of Europe, varying principally according to the amount of competition offered by industrial employment. Since there are differences very nearly of 100 per cent. in the wages paid in different districts of the United Kingdom for exactly the same description of agricultural labour, it is not an easy matter to state an average of the whole.[1] In order to arrive at such an average as nearly as may be, we have selected the rates paid in twenty-one of the principal counties of England,[2] as obtained for Parliament, and find that they represent a mean of 13s. 1½d. per week, but when based on task work, the average is increased to rather over 16s. per week.[3] These figures, however, apply to 1869–70, since which time there have been considerable advances, at any rate in the manufacturing counties. The rates of wages paid for agricultural labour in 1878 was made the subject of inquiry by Mr. Escott,[4] who found on examining many different returns, that the average rate at that time for adult male labour was 15s. per week, "besides extra money earned during harvest time, and allowances of beer or milk." The nominal rates of wages are, indeed, in the great majority of cases accompanied by "privileges," of varying but generally substantial value, and it must be remembered that most

[1] In Northumberland and Cumberland, the maximum rate is 22s. per week; in Dorset and Wilts not more than 11s. to 12s.

[2] See the "Miscellaneous Statistics of the United Kingdom," part viii., p. 335.

[3] Task-work earnings are only averaged for fourteen counties.

[4] "England: its People, Polity, and Pursuits," p. 184.

married labourers have their own earnings considerably added to by the labour of their wives and children.[1]

Proceeding now from unskilled and elementary, to skilled and intelligent labour, it would probably be impossible to produce a more convincing proof of the improvement that has taken place in the remuneration of the working classes generally during the past hundred years than is afforded by the case of letterpress printers. It may be remarked with more or less truth, in reference to all other operatives, that their remuneration has been affected by disturbing elements which are quite irrespective of, and have no immediate relation to, the natural tendency of values. In almost all manufacturing industries machinery has been perfected to such an extent that the conditions of production at the present time are quite unlike those of a hundred years ago. In most of our staple trades, a workman, by means of improved methods and processes, is now able to accomplish much more labour in a given time than he could have done at any former period. In some cases the effect of this transitional movement has been that of lowering instead of raising the average rate of wages. In the cotton and woollen industries such a tendency has resulted from, and proceeded on all fours with, the substitution of comparatively unskilled female and child labour for that of skilled workmen. The power-loom minder is not called upon to exercise the same strength and capacity as the handloom weaver,

[1] Mr. H. J. Little gives the following example of the earnings of an agricultural labourer and his family, which, however, appears to be rather too favourable a picture :—

| | | | |
|---|---|---|---|
| Labourer, 52 weeks at 15s. | £39 | 17 | 0 |
| Wife, occasional earnings | 4 | 16 | 10 |
| Girl, occasional summer work | 5 | 9 | 5 |
| Elder boy, constant work | 12 | 8 | 4 |
| Young boy, summer and occasional | 5 | 11 | 4 |
| Harvest account | 24 | 17 | 10½ |
| Gleaning | 4 | 0 | 0 |
| | £97 | 0 | 9½ |

and while the latter has been in process of extinction his earnings as a weaver have gradually become more and more attenuated, concurrently, however, with an improved rate of remuneration for the *employés* that have taken his place. Even in the case of agricultural labourers, the conditions of work are very different to-day to those that prevailed fifty or a hundred years ago. Husbandry is a more highly scientific pursuit now than it was then; machinery has been largely called in to the aid of the husbandman; and, what with self-acting reapers and binders, steam-ploughs, and a hundred other contrivances designed to economise human labour, the work of the farm, like that of the factory and workshop, has been more or less revolutionised, according as the amount of skill and capital applied to it have been more or less considerable.

The work of the compositor or printer has not been exposed to any of the changes and chances that have so greatly affected other descriptions of labour. The process of type-setting in general use to-day is practically the same as that followed "when George III. was king." This remark is not, of course, intended to imply that the printing trade as a whole has not been subject to considerable modifications in the interval. The printing press of to-day is as great an advance on that of a hundred years ago as it is possible to imagine. In almost every other department of the trade, great changes and improvements have been adopted. But in the mere work of type-setting, in which by far the largest number of hands is engaged, there has, in the main, been little or no change.[1] And yet we find that the average rate of wages paid to compositors in London has increased from 20s. per week of 63 hours in 1784, to 36s. per week of 54 hours in 1884, while in Edinburgh the average rate of wages has increased from 17s. per week of 66 hours to 30s.

[1] Type-setting machines have in some cases been introduced, but they are as yet very little used.

per week of 54 hours.[1] If we reduce these numbers to their proper denomination of the rate per hour, we shall find that the increase in London has been from 3.8d. to 7.6d. per hour, or exactly 100 per cent., while in Edinburgh, there has been a concurrent advance of 3.9d. per hour, or 144 per cent. In the latter city, the wages paid a hundred years ago were 13s. per week less than they are to-day, while the hours of labour were 12 per week, or 22 per cent. more. In London, the wages of 1784 were 16s. per week under those of 1884, while the hours of labour were nearly 17 per cent. more.

On the authority already quoted, we find that a greater advance took place in printers' wages between 1784 and 1804 than has occurred since that time, which is not accordant with the general tendency of wage variations. In 1784, as already stated, the average wages paid in London was 20s. per week; in 1884 the average was 36s. per week, while the hours of labour were reduced by 11 per cent. Between 1804 and 1866, the increase of wages only amounted to 6s. per week, the hours of labour still remaining the same. Since 1866, there has been no material change in the wages of compositors, but the hours of labour have been reduced, first to 60 hours, and afterwards to 54. In Edinburgh, the average rate of wages was advanced from 18s. in 1800 to 25s. in 1840, per week of 66 hours. Since 1840, the hours of labour have been reduced by 12 per week, while the average rate of wages has been increased by 5s. per week.

Like printers, workmen engaged in the building trades have participated in the general increase of wages within recent years, without reference to any special disturbances or variations in modes and processes of working. There is ample evidence in support of this fact. The records of Greenwich Hospital show the rates of wages paid to artisans of this description as far back as 1729.

[1] These figures have been kindly furnished to the author by the Ballantyne Press, which has been in existence for about a century.

Selecting the year 1785, and comparing the wages paid then with those that are shown in the "Miscellaneous Statistics of the United Kingdom" to have been paid in 1880, we find that the figures come out as follows:—

| Occupation. | Average Daily Wages in | | Increase in 1880. | |
|---|---|---|---|---|
| | 1785. | 1880. | Amount. | Percentage. |
| | s. d. | s. d. | s. d. | |
| Bricklayers . . | 2 4 | 6 0 | 3 8 | 157 |
| Masons . . . | 2 10 | 6 0 | 3 2 | 112 |
| Carpenters . . | 2 7 | 6 0 | 3 5 | 132 |
| Plumbers . . . | 3 3 | 6 6 | 3 3 | 100 |

It must not be forgotten that this increase of wages has again been concurrent with a considerable reduction in the hours of labour. The average number of hours worked per week in 1785 is not exactly stated, but in 1880, the average is taken at 49 hours, the rule being to work 52½ hours in summer, and 47 hours during the rest of the year. The actual gain, therefore, has been considerably more than even the above figures indicate.

During the half century ending with 1880, the increase in the actual amount of wages paid in the building trades of London has not been so marked as the reduction in the hours of labour. From the official sources already acknowledged, the following figures are taken to illustrate this fact:—

| Occupation. | Average Daily Wages Paid in | | Increase in 1880. | |
|---|---|---|---|---|
| | 1830.[1] | 1880. | Amount. | Percentage. |
| | s. d. | s. d. | s. d. | |
| Bricklayers . . | 4 10 | 6 0 | 1 2 | 24 |
| Masons . . . | 5 6 | 6 0 | 0 6 | 9 |
| Carpenters . . | 5 8 | 6 0 | 0 4 | 6 |
| Plumbers . . . | 5 5 | 6 6 | 1 1 | 20 |

[1] For some reason which does not quite appear on the surface, the rates of wages paid at Greenwich between 1826 and 1830 were higher than the rates paid in several immediately succeeding years.

Whether it is due to some cause arising out of the "fickleness of figures," or whether it is that in London the wages paid to builders have not advanced within recent years to the same extent as those paid in the provinces, it is to be remarked that the foregoing returns do not correspond with many others that are available. In returns submitted in 1884 to the Manchester Chamber of Commerce, Mr. Lord, then president of that body, showed that between 1850 and 1883, the wages paid in the building trades had increased by about 40 per cent. Another writer[1] has shown that the wages paid in the three leading branches of the building trade in 1834 and 1884, respectively, were as under:—

| Occupation. | Average Weekly Wages in | | Percentage of Increase. |
|---|---|---|---|
| | 1834. | 1884. | |
| | s. d. | s. d. | |
| Masons | 24 0 | 32 0 | 33 |
| Joiners | 24 0 | 36 0 | 50 |
| Bricklayers | 23 0 | 36 0 | 56 |

Showing an average increase of 46 per cent. in the half century embraced in the returns.

Limiting, now, the comparison to a shorter interval, the weekly wages earned in the building trades of Manchester in 1850 and 1883, respectively, are thus tabulated by Mr. Lord:—

| Occupation. | Average Weekly Wages Paid in | | Increase in 1883. | |
|---|---|---|---|---|
| | 1850. | 1883. | Amount. | Percentage. |
| | s. d. | s. d. | s. d. | |
| Joiners | 24 0 | 36 4 | 12 4 | 50 |
| Bricklayers | 26 0 | 38 7 | 12 7 | 47 |
| Masons | 24 0 | 32 8 | 8 8 | 34 |
| Plasterers | 26 0 | 36 4 | 10 4 | 40 |
| Labourers | 17 0 | 22 9 | 5 9 | 35 |

[1] Presidential address of Mr. R. Montgomery to the Manchester Statistical Society in 1884.

We will now proceed to focus the available data as to the actual increase of wages within the last half century by comparing two statements recently published by the authorities already cited—the first by Mr. Lord, the late president of the Manchester Chamber of Commerce, showing the rate of increase per cent. between 1850 and 1883, in the wages paid in that part of Lancashire; the second by Mr. R. Montgomery, president of the Manchester Statistical Society, showing the increase of wages in the same industries between 1834 and 1884:—

| Class of Occupation. | Mr. Montgomery's Figures, 1834–84. | Mr. Lord's Figures, 1850–83. |
|---|---|---|
| | Percentage of Increase. | Percentage of Increase. |
| Spinning | 63 | 16.27 to 74.72 |
| Weaving | 43 | 35.16 to 74.72 |
| Dyeing | 16 | ... |
| Calico Printing | 46 | 50.0 |
| Calendering | 47 | 40.0 |
| Bleaching | 32 | 50.0 |
| Engineering | 18 | 10.30 |
| Glass-making | 40 | ... |
| Silk Trade | 37 | ... |
| Building Trades | 46 | 39.76 |
| Tailoring | 53 | ... |

The foregoing figures, which speak for themselves, are sufficiently approximate to support a general conclusion as to the character and extent of the wages movement over the period to which they refer.

There was, however, a considerable rise of wages before the earliest of the dates quoted above, as is evident from other sources equally trustworthy. The daily wages paid at Greenwich Hospital, for example, in each of the years 1729, 1779, and 1829, were as under:—

| Occupation. | 1729. | 1779. | 1829. |
|---|---|---|---|
| | s. d. | s. d. | s. d. |
| Carpenters | 2 6 | 2 6 | 5 8½ |
| Joiners | 2 6 | 2 8 | 5 8½ |
| Masons | 2 6 | 2 10 | 5 6 |
| Plumbers | 3 0 | 3 0 | 5 9 |
| Bricklayers | 2 6 | 2 4 | 4 10 |

It would appear from these figures, that in the century preceding 1829, the average rate of wages paid in the neighbourhood of London had increased by 100 per cent.—an increase greatly in excess of the ascertained difference in the cost of living over the same period; and that almost the whole of this increase took place in the later half of the period in question. The movement, however, was far from uniform. Where the occupation was not affected by changes in the modes and methods of manufacture, the difference was undoubtedly in favour of the later period; but in many cases, such as that of weaving, in which improved machinery took the place of hand labour, wages were often reduced instead of advanced. A striking example of this fact is to be found in the variations of the wages paid to handloom weavers between 1795 and 1834, as contributed to the Report of the Select Committee on Handloom Weavers in 1834, by a leading Bolton spinner, namely—

*Weekly Wages for Weaving a 6 quarter 60-reed Cambric.*

| Year. | Wages. | Year. | Wages. | Year. | Wages. | Year. | Wages. |
|---|---|---|---|---|---|---|---|
| | s. d. | | s. d. | | s. d. | | s. d. |
| 1795 | 33 3 | 1805 | 25 0 | 1815 | 14 0 | 1825 | 8 6 |
| 1796 | 33 3 | 1806 | 22 0 | 1816 | 12 0 | 1826 | 7 0 |
| 1797 | 29 0 | 1807 | 18 0 | 1817 | 9 0 | 1827 | 6 6 |
| 1798 | 30 0 | 1808 | 15 0 | 1818 | 9 0 | 1828 | 6 0 |
| 1799 | 25 0 | 1809 | 16 0 | 1819 | 9 6 | 1829 | 5 6 |
| 1800 | 25 0 | 1810 | 19 6 | 1820 | 9 0 | 1830 | 5 6 |
| 1801 | 25 0 | 1811 | 14 0 | 1821 | 8 6 | 1831 | 5 6 |
| 1802 | 29 0 | 1812 | 14 0 | 1822 | 8 6 | 1832 | 5 6 |
| 1803 | 24 0 | 1813 | 15 0 | 1823 | 8 6 | 1833 | 5 6 |
| 1804 | 24 0 | 1814 | 24 0 | 1824 | 8 6 | 1834 | 5 6 |

The foregoing returns are confirmed by others made to the House of Commons in 1812, whence it appears that the price paid to handloom weavers at Stockport for weaving a piece of 24 yards of cambric fell from 25s. in 1802 to 10s. in 1812, or 60 per cent.

Examples of the kind just quoted are, however, comparatively rare. It is the tendency of labour-saving machinery to disturb for a time the ordinary relations of supply and demand in the labour-market, and to cause violent fluctuations in the rates of wages. But, in the long run, the unstable equilibrium has been adjusted in accordance with the *general tendencies* of that market, which have invariably, when taken over a series of years, been in an upward direction, and that, probably, more because of the economy induced by mechanical appliances than from any other cause. We shall find when we come to deal with the wages paid in different countries in reference to their purchasing power, that if England has not had the greatest absolute amount of advance, we can at least show that the increase of wages in this country has been coincident with a greater reduction in the average cost of living than in any other.

It is not, however, enough to show that the condition of the industrial population of England has greatly improved so far as their earnings are concerned. The true bearing and effects of that improvement can only be rightly appreciated when they are compared with corresponding variations in other parts of the world.

There is in many quarters an impression that wages have increased in England more rapidly and largely than anywhere else in Europe, and that for this reason we now stand at a considerably greater disadvantage in reference to the wages cost of producing all staple commodities than we did at an earlier period of the century. This, however, is very far from being the case. The truth is, that wages have not within the last fifty years increased in our own country so largely as they have in

some others. This does not, of course, mean that the condition of our working population has not improved to a larger extent than in other countries. It is important to distinguish between an absolute advance of wages and an absolute increase of their purchasing power. In England wages have increased concurrently with a notable decrease in the cost of living in all but a very few necessary items of outlay. On the Continent, on the contrary, the increase of wages has generally been accompanied by a corresponding increase in the cost of living, and a consequent diminution of their purchasing power.

The distinction just referred to is strikingly illustrated by the experience of Switzerland. In the Canton of Zurich there are large spinning mills, belonging to Messrs. Hürlimann, which have been carried on continuously for upwards of half a century. A return of the wages paid to each class of operatives for each year over that long period shows that between 1835 and 1871, there occurred an average increase of wages to the extent of 122 per cent., being at the rate of nearly $3\frac{6}{15}$ per cent. per annum.[1] The cost of food and lodging per day in 1835 is stated at $4\frac{1}{2}$d., whereas in 1871 it had advanced to $9\frac{1}{2}$d. per day. Concurrently, therefore, with the average advance of 122 per cent. in wages, there had been an average increase of $101\frac{6}{15}$ per cent. in the cost of food and lodging. The greater part of the increase in both cases has taken place since 1857. The greatest increase of wages appears to have occurred in the case of girls and children (from $4\frac{1}{2}$d. to $11\frac{1}{2}$d. per day, or 233 per cent.), while the least percentage of advance was that in the wages of foremen, whose earnings, however, showed the largest amount of increase.

In Belgium, as in other European countries, there has

[1] *Vide* "Further Reports from Her Majesty's Diplomatic and Consular Agents Abroad respecting the Condition of the Industrial Classes and the Purchase Power of Money in Foreign Countries," p. 362.

been a considerable advance in the rates of wages paid within recent years. The scope of this advance, as well as the comparative daily amount of wages, are shown in the following tabular statement, which has been compiled from two sources of unquestionable authority—the earlier returns having been taken from M'Gregor's "Commercial Statistics," and the later figures from the "Report of the Royal Commission on Technical Instruction":—

| | Year 1845. | Year 1884. |
|---|---|---|
| | *s. d.* | *s. d.* *s. d.* |
| Miners | 1 4 | 3 0 |
| Artisans | 1 3½ | 2 9 to 3 3 |
| Labourers | 0 11 | 2 6 |
| Smiths | 1 3 | 2 3 to 3 6 |
| Ironworkers | 1 4 | 3 3 to 4 6 |

Showing in every one of the typical cases quoted an advance of considerably over 100 per cent. The wages paid in Belgium at the present time generally approximate to those paid in the north of France.

If we compare the condition of the English agriculturist with that of his French congener, in reference to the nominal cost of labour, we find that the former stands at a considerable advantage. In France, the average amount of wages received by a farm labourer in 1872—and it is not greatly different now—was £6, 16s. 9½d. a year, in addition to board, and if to this amount be added the value of the food consumed by the labourer, which Lord Brabazon calculated at 4¾d. per day, it appears that the maintenance of a farm labourer costs his employer, on an average, about £14, 3s. 2⅜d. per annum.[1]

In the official statistical abstracts of France for 1882 we find a statement of the wages paid in sixty-two different occupations, as furnished to the Government by the chief magistrates of the leading towns throughout

[1] "Further Reports from Her Majesty's Diplomatic and Consular Agents Abroad respecting the Condition of the Industrial Classes and the Purchase Power of Money in Foreign Countries," p. 42.

that country. These figures show, on an average, that the ordinary daily wage paid in all trades dealt with amounted to 1.89 f. in 1853, and to 3.08 f. in 1881, showing a difference of 1.19 f., or 63 per cent. Where board was supplied, the average wages in 1853 amounted to 96 cents, and in 1881 to 1.52 f., being an increase of 56 cents, or 58 per cent. From these official *data* it would appear that the average of the wages paid for artizan labour in France in 1881 was only about 2s. 6d. per day, or 15s. per week, being, in fact, not more than the average wages paid to English agricultural labourers, in addition to their invariable "privileges."

In some cases it will be found that wages have increased to a larger extent in Germany than in any other country of which we possess reliable information. This increase has been more especially noticeable in the mechanical trades, which are, somewhat curiously, the very trades in which England has been most hardly pressed by German competition. A report made by Her Majesty's Consul at Frankfort in 1884, states that in a large engineering establishment at Bockenheim, near that city, the average wages paid to all the operatives employed, taken one with another, per working day and year, increased from £26, 14s. in 1866 to £51, 9s. in 1883. Here, then, is an increase of about 96 per cent. within eighteen years. The increase has not, however, been a steady one; it has depended evidently upon variations in the condition of trade. In 1873 the average wages paid were about £2 per *employé* above those of 1883, and were 104 per cent. higher than those paid seven years before. In 1878, however, the average had fallen to £46, 4s., showing a decline on that of 1873 of over 13 per cent. From this point the wages rose gradually until they attained their maximum average of £54, 3s. in 1882, since which they have fallen considerably. In Germany, therefore, wages have not, as in this country, touched their highest point in 1873, nor have

such considerable reductions, all round, been made there as with us. On the contrary, it appears, on an analysis of the wage returns of the Bockenheim factory, that the average of the ten years following 1873 was only 3.8 per cent. under the average of that year.

The average annual wages paid in the establishment referred to are obtained by multiplying the daily rate of wages by 290, this being the average number of real working days. It would appear from this that in addition to Sundays, each workman has an average of twenty-three holidays or idle days in the year. Whether this is a higher or a lower average than that of English workshops, we have no means of determining. In some industrial occupations, the amount of broken time is much greater than in others; in all, there is a more general observance of Saint Monday than is desirable.

The following is an analysis of the average wages paid in the Bockenheim factory:—

| | |
|---|---|
| Workmen of most skill and experience . | £65 to £95 per week. |
| Medium workmen, joiners, &c. . . | 45 to 60 „ |
| "Handy" workmen . . . . . | 37 to 47 „ |
| Artizans just out with apprenticeship . | 22 to 30 „ |
| Apprentices . . . . . | 10 to 15 „ |

It is interesting to compare the wage variations of German artizans with those quoted by Sir Thomas Brassey as paid at the Canada Works, Birkenhead, for the period 1854–70. According to the returns of this excellent authority,[1] the rate of wages paid to smiths, grinders, braziers, forgemen, painters, and moulders, was lower in the year 1870 than in 1854, in some cases by as much as 4s. per week. Over thirteen different occupations tabulated, the average wages paid amounted to 30s. 3½d. in 1854, and 29s. 10d. in 1870, showing an average reduction of 5½d. per man per week in the latter year. It is obvious that upon these figures, considered by themselves, the conclusion would be justified that any

[1] "Work and Wages."

difference that may have occurred in the rate of wages in these seventeen years was against rather than in favour of the workmen, so far as the Canada Works supplied a test. But there would be grave risk of error in hastily forming such a judgment. In 1854, the number of skilled artisans in England was probably fewer than in any subsequent year, relatively to the demand, which would have the effect of raising the wages paid to such operatives to a higher point than the average of wages generally paid in all employments. It is, moreover, well known that the late Mr. Brassey was a generous employer, and his works probably all along, and especially at the earlier period specified, when railways were being laid down in all parts of the world, would represent the highest wages paid in the country.

An examination of the returns already cited of the wages paid in the Manchester district in the years 1850 and 1870, which practically covers the same period as that embraced by Mr. Brassey's figures, appear to support the conclusion just enunciated.

These considerations point with no uncertain index to the great necessity for caution in receiving as of general application any returns of the rates of wages paid in a particular district at any particular time. The figures are liable to be modified and varied by many local and special circumstances, and in the great majority of cases it is extremely difficult to ascertain, and still more difficult, perhaps, to state with precision what those modifying circumstances are. A curious example of this fact will be found on comparing the rates of wages paid to cotton weavers between 1816 and 1840, as quoted by Porter,[1] and those given by Babbage[2] for the same industry and over the same period. According to the figures of Porter, it would seem as if the average rate of wages had declined in this interval from 14s. to 11s. per week, while Babbage

[1] "Progress of the Nation," p. 187.

[2] "Economy of Manufactures."

points to quite a different result. The discrepancy is probably due to local circumstances not appearing on the record. It is well known that wages often decline in one branch concurrently with an increase in all the other branches of the same industry, and *vice versa*.

It is now proposed to consider the fluctuations in the wages paid in the United States, and compare them with those that have occurred in our own country within the last half-century. Such a comparison of the industrial condition of the two greatest and wealthiest nations of the world can scarcely fail to throw some light upon the problems we have been discussing, and may, perhaps, assist us in our endeavour to estimate the tendencies of the future.

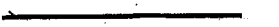
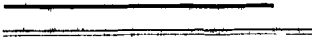
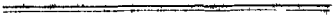
There is, however, this difficulty with regard to the United States, that reliable records of the rates of wages paid before the war are exceedingly scanty and generally less exact than could be desired. No nation has done more to systematise and make available facts of this kind within the last twenty years, but before that period no nation had made less progress in that direction. Even the wages of agricultural labourers before the war are hardly comeatable, the fact being that negro labour was almost the only kind employed other than that of the squatter or freeholder and his family, which, of course, was not appraised in the form of weekly or yearly allowances.[1] The best return that we have been able to find for the purpose in view is one given by Mr. Edward Atkinson[2] to show the annual rate of wages paid in a Massachusetts cotton factory at different dates between 1830 and 1884, the workers producing throughout that period the same kind and quality of product, and the

[1] This statement is confirmed by a remark of Mr. James Russell Lowell, the American Ambassador, in answer to a criticism of the writer at a meeting of the Society of Arts in 1885.

[2] "Mechanism and Metaphysics of Exchange."

conditions generally being approximately identical. The return is appended:—

*Average Wages per Operative per Year*

| Year. | Dols. | | |
|---|---|---|---|
| 1830 | 164. | gold. |  |
| 1840 | 175. | gold. |  |
| 1850 | 190. | gold. |  |
| 1860 | 197. | gold. |  |
| 1870 | 275. | cur. |  |
| 1870 | 240. | gold. |  |
| 1880 | 259. | gold. |  |
| 1883 | 287. | gold. |  |
| 1884 | 290. | gold. |  |

From these figures it would appear that while the rate of wages paid only increased about 20 per cent. in the thirty years ending 1860, they rose in the next ten years to the extent of about 40 per cent.[1] Over the half century dealt with, the full amount of the advance has been about 76 per cent., as compared with 83 per cent. in spinning, and 43 per cent. in weaving ascertained by Mr. Montgomery for approximately the same period in the United Kingdom, as already specified.

There can be little doubt that the effect of a great war has usually been to create a demand for labour, to afford labour the most ample and the most remunerative employment, and to advance the earnings of all classes of workmen. The most notable example of this tendency is perhaps the case of the civil war in the United States. Between 1861 and 1867—that is, immediately before and immediately after the war—the average increase of the wages paid in leading industries was as under:[2]—

| | |
|---|---|
| Cotton mills . . . . . | 63 per cent. |
| Woollen mills . . . . . | 65 „ |
| Worsted mills . . . . . | 79 „ |
| Sugar refineries . . . . . | 59 „ |

[1] The wages for 1870 are given in a depreciated currency, which is a fact not to be lost sight of.

[2] Report of the Special Commissioner of the United States Revenue for the year 1868.

| | |
|---|---|
| Agricultural implement works | 68 per cent. |
| Gasworks | 70 ,, |
| Leather manufactories | 71 ,, |
| Glass-works | 63 ,, |
| Paper mills | 84 ,, |
| Shipbuilding | 63 ,, |
| Agricultural labour | 50 ,, |

and so with other industries. Within the same period the rates of wages paid in England varied less than they have since done, and it was not until after the war that the great difference that now exists in the comparative earnings of labour in the two countries became so marked.

According to Mr. Edward Young, the following percentage of increase was found to exist in the rates of wages paid in the United States over the United Kingdom in 1867:—

| | |
|---|---|
| Cotton mills | 47 per cent. |
| Woollen mills | 24 ,, |
| Worsted mills | 58 ,, |
| Sugar refineries | 65 ,, |
| Rolling mills | 48 ,, |
| Gasworks | 62 ,, |
| Leather manufactures | 48 ,, |
| Glass-works | 45 ,, |
| Flint glass-works | 45 ,, |
| Paper mills | 93 ,, |
| Shipbuilding | 62 ,, |

Now, it is somewhat remarkable that these percentages of difference are generally *less* than those that represent the increase of wages paid in the United States in the same industries between 1861 and 1867, from which it would follow that *if* the rates of wages paid in England did not greatly vary as between these two years, English labour would, on the whole, be better remunerated in 1861 than similar labour in America. But this was not altogether the case, as we have already partially seen, and as we shall see again.

There were, as between 1861 and 1867, considerable advances of wages in several leading industries in this

country, but in no case probably exceeding 25 per cent., and certainly far from equalling, on an average, the advances received in the United States. English and American labour, therefore, approximated much more closely as regards rates of wages previous to the war, and it seems as if it was that event that induced the enormous advance by which the earnings of labour in America have since been differentiated from those paid in England. That advance has of course been concurrent with a probably still greater general advance in the cost of living. The cost of labour cannot be largely increased, other conditions remaining much the same, without an increase in the cost of all that labour is employed to produce. But of this more anon.

To what, now, can the great increase of wages that has occurred within the last quarter of a century, or thereabouts, be mainly attributed. It will be found, we think, that it has followed upon, and been mainly caused by—

1. The universal introduction into trades and handicrafts of labour-saving machinery, whereby a very much greater production of all commodities has been secured at a greatly diminished cost.
2. The more minute subdivision of labour, which, concurrently with the introduction of new processes and machinery, has enabled artizans to acquire greater efficiency and dexterity within the more limited sphere of operations which they are now required to fill.
3. The facilities afforded by the railway and the steamship for bringing producers and consumers together all the world over, thus ensuring that, unless hampered by artificial restrictions, a market would be found for the staple and special productions or manufactures of each country in all the others; or, in other words, the greater perfection of the mechanism of exchange.

Now, assuming these to be the chief determinants of the average rate of wages, and the criteria whence their rise and fall may be predicated, it becomes a natural and anxious subject of inquiry whether there are any considerations which, in the nature of the case, may reasonably be expected to maintain wages at their present level, or to cause them either to rise or fall.

He would be a bold man who would assert that we have yet reached finality in mechanical discovery or scientific invention. Any such conclusion as this would be instantly refuted by all that is passing around us. Look where we may, the same restless spirit of striving to excel in manufacturing processes and mechanism is found abroad. The records of the Patent Office prove that so far from this spirit having been exorcised from our midst, there never was a time when it was more rampant, so that scarcely a year passes without the cost of production having been still further perfected and economised in all our leading manufactures. Precisely the same tendency is to be observed in regard to the division of labour. As manufacturing operations come to be pursued on a larger and yet larger scale, it is found the truest economy to aim at a still further subdivision of operations, so that each may attain and exercise the greatest possible proficiency in the special work committed to his charge. Not a factory can be visited in which this principle is not kept to the front, as the great mainspring of success; and it would be easy to prove, by an examination of prices within a comparatively recent interval, that the observance of this law continues to bear increasing fruit. So also is it with our means of transport, which are being cheapened in every direction. Railway transport does not cost nearly so much now as it did twenty years ago. Improvements in the locomotive engine have induced the command of greater power concurrently with a reduced consumption of fuel, the average load hauled is now much greater than formerly, so that

the cost per ton or per passenger is distributed over a greater quantity or number, and great improvements and economies have also been introduced into permanent way. Our sea-going steamers are now twice, and often three times the size they were a few years ago, so that the cost both of wages and of fuel—the two main items of expense—are spread over a much greater weight of cargo, and an important economy is thereby secured.[1]

These, however, are, after all, advantages of which this country does not enjoy any monopoly. In most of them England undoubtedly got a good start, and in all of them she has until now been able to maintain her superiority. But the very circumstances that have chiefly tended to secure our pre-eminence, and to ameliorate the general social and economic conditions of our population, have probably been those which, more than any other, have threatened to reverse the conditions that they have brought about. Let us explain this seeming paradox. Had it not been for the extraordinary economy effected in the production of all our staples, foreign nations would not have bought them as they have done; had it not been for the facilities offered by the railway and the steamship, our foreign customers would scarcely have been able either to purchase or to acquaint themselves with the details of our manufactures as they have done; and had it not been for the opportunities thus afforded them, our former customers would not have become so largely our competitors as they are to-day.[2] The question for the future to determine is how far that great and growing

[1] In 1875, the largest steamer afloat, except the Great Eastern, was only of 5491 gross tonnage; in 1884, there were no less than seventeen vessels above that figure, and seven of them were over 7000 tons burthen. Since 1865, the average consumption of coal in our best steamers, has been reduced by nearly one-half for a given result.

[2] I am quite aware of the scope of Mr. Giffen's ingenious argument, that an increase of foreign manufactures is favourable, rather than adverse, to English commerce, but I by no means attach the weight to it that he does.

competition will prove detrimental to English industry. So far as it has already gone, it has not done us very much harm. Our trade has been greatly depressed, no doubt, but so has the trade of all other European nations, some of them even to a more serious extent than our own. We have lost ground in some of our best Continental markets, and in the United States as well; but it is by no means clear that that result would not have happened even if unaided by the artificial help of protective tariffs. Nor, on the other hand, is it at all clear that we should have maintained our hold of these markets, if absolute freedom of trade had been the rule instead of the almost non-existent exception. America, for example, has recently proved that she can produce certain leading articles, and has actually produced and sold them as cheaply as they can be made in England, notwithstanding that those same articles continue to be burdened, as regards their import, with duties varying from 40 to 70 per cent. of their value. Nay more, America has been able to sell in Canada, in competition with English manufacturers, commodities that are excluded from her own shores by the prohibitory tariff already referred to. It is in this regard that the warnings of Cassandra are likely to be most necessary and effectual. If the nations that we have been the means very largely of educating up to their present proficiency in manufactures once pre-eminently our own, succeed in beating us in neutral markets, our position will be indeed beset with great peril. And it is this consideration that must mainly determine the wages of the future. If our industrial rivals continue to maintain the relative distance that separates their wages costs from ours, all may be well. If they reduce wages, or what is much the same, secure greater efficiency at the same rate of wages as that now paid, England will have "to look to't." It is, therefore, of the utmost importance to our future that wages fluctuations abroad should be closely scanned. The

time has gone past when every industry had its exclusive centre and its exclusive secrets. England has little or no superiority in processes or machinery that may not be—if they have not already been—borrowed or stolen by our neighbours. Nor is there much in foreign countries that is "a sealed book" to English manufacturers. "The race is to the swift"—to those who have the energy and the capacity to cultivate the markets of the world, to adopt the best and most modern improvements, and to exercise the utmost economy of management. In these requisites we believe England to remain, as hitherto, *facile princeps*. But in none of them is she necessarily invulnerable; there is no royal road to commercial supremacy; and the position that England has so nobly won will every year be harder and more difficult to maintain.

## CHAPTER XI.

### *COST OF LABOUR IN DIFFERENT COUNTRIES.*

HAVING in the preceding chapter traced the upward variations of wages in different countries, it now becomes necessary, in order to a correct appreciation of their relative economic conditions, to compare their circumstances in regard to the cost of labour.

That the manufacturing supremacy of a nation will ultimately be determined by this item, all other things being equal, is too obvious to need much argument. Before proceeding further, however, it is necessary that we should arrive at a correct and specific definition of the term "cost of labour," otherwise we shall be likely both to mislead and to be misled. The amount of wages paid for a given period or amount of service, does not always, nor invariably, represent the true cost of the work done. Labour must be considered in reference to its quality, its efficiency, and the character of the work on which it is employed, as well as with reference to its nominal remuneration. The Bengal ryot, who is paid 2d. to 3d. per day, renders services that are nominally very much cheaper than those of the Dakota wheat-grower, who receives, perhaps, thirty or forty times as much for the same period of work; but if the American agriculturist produces, as he often does by the aid of his improved machinery, 45 to 50 bushels of wheat per day, where the ryot, with his antiquated appliances and his slower pace, only produces two or three, the more highly-paid labour may, after all, be the most economical. Still another example on a much larger scale may be

quoted. The number of persons employed in agriculture in the United States is, as we have shown elsewhere, much less for a given area than in our own country. Now, it is quite possible that differences in the climate, or in the fertility of the soil, &c., may render some such disparity a necessity; but if it should happen that the difference is mainly due to the greater efficiency of American agricultural labour, aided by improved machinery, it would almost certainly be found that the more highly paid labour of that country was after all cheaper than our own.

Mr. Atkinson, of Boston, has been so far impressed with such considerations that he calls attention to the following as popular fallacies:—

1. That the cost of production of any given article can be ascertained by finding out and comparing the *rates* of wages paid in its production in different places.
2. That low *rates* of wages are necessary to low cost of production; and that high *rates* of wages can only be paid consistently with high cost of production.
3. That inasmuch as labourers work for wages, wages enter directly into the cost of production, and, therefore, cheap labour can only be assured by the payment of low *rates* of wages.
4. That an employer must of necessity be able to hire labourers at low *rates of wages* in order to make goods at low cost.

These so-called fallacies are met by the following counter propositions, viz.:—

1. That the rate of wages constitutes no standard even of the money cost of production, which cost must be made up by adding together the sum of all wages, and dividing by the product, in order to establish a unit of cost in money by way of a

unit of measure—whether by the yard, barrel, or pound.

2. Low rates of wages are not essential to a low cost of production, but, on the contrary, usually indicate a high cost of production—that is to say, a large measure of human labour, and a large sum of wages at low rates. Conversely, high rates of wages may, and commonly do, indicate a low cost of production—that is to say, a small proportion of human labour, and a small proportionate sum of wages at high rates in a given quantity of product.
3. Cheap labour, in a true sense, and low rates of wages are *not* synonymous terms, but are usually quite the reverse.
4. An employer is not under the necessity of securing labour at low rates of wages, in order to make cheap goods, but he may, and commonly does, pay high rates of wages for the very purpose of assuring the production of goods at the lowest cost—that is, in order to be able to sell them on the lowest terms.

It will probably be thought that Mr. Atkinson in these *postulata* carries the argument to its extremest limits; but his conclusions are put forward with so much force that they can scarcely fail to produce that impression of reserve and caution with which the reader should always receive a statement of the cost of production, when based on wage statistics alone.

It should, at the same time, be remembered that there is no other criterion of the capacity to produce cheaply so obvious, and so easily ascertainable, as that of rates of wages, and therefore no other test is at once so valuable and so susceptible of ready application. The comparative efficiency of labour can only be determined by experiments carried on over a considerable period, and even in making such experiments, it seldom happens that the

conditions of the comparison are so strictly relevant and parallel as they should be in order to be of real value. The same remark applies to the comparative merits of mechanical aids to manual labour, which must be determined, not alone by their proved capacity to turn out a given quantity in a given time, but also by their productiveness relatively to their first cost, their liability to get out of repair, their durability, and so forth.

There is still another, and a scarcely less formidable difficulty attending any attempt to compare the average rates of wages in different countries. It seldom happens that a manufacture is carried on in any two countries under precisely similar conditions. Nearly every country has methods of working and mechanical appliances more or less peculiar to itself. In no two countries are the hours of labour precisely alike. In no two countries are the relative proportions of women and children to adult male *employés* quite the same. Nay more, it rarely happens that the rates of wages paid in any two districts of the same country are exactly on all fours, even in the same employment. Who can say what is the average rate of agricultural labourers' wages in England? It varies, as we have seen in the preceding chapter, from 17*s.* or 18*s.* per week in the northern, to 10*s.* 6*d.* or 11*s.* in the southern and western counties; but how is the real mean to be arrived at? To establish such a mean correctly, it would be necessary to ascertain the actual wages paid, not only in each county, but in each district of each county, and even then we should be liable to fall into error, unless the "extras" and "privileges" allowed in each separate case could be precisely ascertained, and their actual value appraised. All this would obviously be attended with so much difficulty, while the disturbing elements would be found so numerous and so serious, that it is very doubtful whether, after all, anything more than a rough approximation at the real facts could be attained. And if the

difficulty is great in reference to an employment so simple and so uniformly parallel in its conditions as that of agricultural labour, how much more serious must it be in reference to manufacturing industry, in which the conditions are so variable, so uncertain, and so often conflicting and indeterminate? The candid student of wage statistics is bound to admit that in this case the perils that environ his steps almost overwhelm him. He finds that methods of working vary as between one district and another; that the hours of labour are seldom uniform; that in some cases wages are largely increased by overtime, that in others they are greatly reduced by inadequate demand; that here the average is raised by the limitation of apprentices, while there it is depressed by the opposite cause; and it even happens, and not unfrequently, that the very name of the employment varies as between one district and another of the same country.

Having so far cleared the way, we will now proceed to consider, as carefully as the available data will allow, the differences that distinguish the wages cost of labour in different countries.

And first with reference to the United Kingdom. The average rate of wages in specified occupations in this country, as well as the larger question of the aggregate and average individual earnings of the whole working population, have at one time and another been the subject of very careful and able investigations by statists of repute. Professor Leoni Levi, who has devoted perhaps more time, and bestowed more competency upon this matter than any other living authority, has quite recently, in a report,[1] which we recommend to the study of the reader who may be interested in following the subject further, computed that the average earnings of the industrial population of the United Kingdom, taken as a whole, is £45, 16s. per annum, and that the average earnings of the whole wage-earning population of the country, including domestic, commercial, agricultural, and industrial,

[1] "Wages and Earnings of the Working Classes." London, 1885.

as well as a certain number of the so-called professional classes, is £42, 14s. per annum.[1] The census returns of the United States happily enable a comparison of the average wages paid in that country to be made with the averages arrived at by the learned Professor for the United Kingdom, and we have collated the two sets of figures in the following statement:—.

| Class of Occupation. | Average Annual Earnings per Person employed in | | Difference. |
|---|---|---|---|
| | United Kingdom. | United States. | |
| Domestic service . . | £35 17 0 | £63 0 0 | £27 3 0 |
| Manufactures . . . | 45 16 0 | 72 0 0 | 26 4 0 |
| Agricultural labour . . | 35 5 0 | 52 0 0 | 16 15 0 |

From these figures, it would appear that the average rate of wages paid in the United States is 75 per cent. higher in domestic service, 56 per cent. higher in manufactures, and 49 per cent. higher in agricultural labour than in our own country. The necessity of adopting any such very wide generalisation as this with great reserve has already been pointed out. All that can be claimed for the calculation is that it is probably as near the truth as it is humanly possible to attain. But in order that our confidence in the figures may be confirmed, we shall proceed to subject them to further if not more reliable tests.

The Massachusetts Bureau of Labour Statistics undertook in 1884 to examine the differences in the rates of wages in different occupations as between that particular State and Great Britain. Having regard to the fact that the hours of work are longer in America than in our own country, the rates of wages were in all cases reduced to their average amount paid per hour in both countries, and the result appears in the following table:—

[1] The author may here advert to the fact that this sum is within a few shillings of the annual average earnings which he himself estimated, in a paper read before the Statistical Society some months previous to the publication of the Professor's report.

*Average Wages per Hour paid in Great Britain and in the United States (Massachusetts) in 1883.*

| Occupations. | Average Wages by the Hour in | | Difference by increase in United States. |
|---|---|---|---|
| | Great Britain. | United States. | |
| | *d.* | *d.* | Per Cent. |
| Agricultural implements | 8.9 | 8.54 | 4.2 |
| Artisans' tools | 4.53 | 9.83 | 117.1 |
| Boots and shoes | 4.16 | 9.78 | 135.1 |
| Brick | ... | 6.74 | ... |
| Building trades | 7.00 | 12.49 | 78.4 |
| Carriages and waggons | 4.53 | 11.50 | 153.9 |
| Clothing | 6.25 | 8.57 | 37.1 |
| Cotton goods | 4.16 | 5.37 | 29.2 |
| Flax and jute goods | 2.63 | 5.38 | 104.8 |
| Food preparations | 2.44 | 8.17 | 217.5 |
| Furniture | 7.58 | 9.27 | 22.4 |
| Glass | ... | 10.23 | ... |
| Hats—fur, wool, silk | 5.10 | 9.17 | 79.9 |
| Hosiery | 4.30 | 5.41 | 25.7 |
| Liquors, malt and distilled | ... | 9.28 | ... |
| Machines and machinery | 6.62 | 9.86 | 48.8 |
| Metals and metallic goods | 6.88 | 9.45 | 37.3 |
| Printing and publishing | 5.14 | 9.78 | 90.1 |
| Printing, dyeing, bleaching, and finishing cotton textiles | 4.57 | 7.22 | 57.9 |
| Stone | ... | 12.05 | ... |
| Wooden goods | ... | 10.16 | ... |
| Woollen goods | 4.34 | 5.75 | 32.5 |
| Worsted goods | 3.21 | 6.10 | 89.7 |

So far as this statement goes, it shows remarkable variations as between one occupation and another, and that, sometimes, where such differences would probably be least expected. But one fact stands out as at once more prominent, and, in its bearing on the subject under discussion, more important than any other. It will be found on collating the major industries—those of cotton, iron and steel, woollens, hosiery, and machines and machinery—that the average increase in America over our own country, reduced to the standard of hourly rates, is only about 40 per cent.

Massachusetts, though the great seat of the American textile industries, and in other respects one of the most important manufacturing States in America, does not show the highest wage-rate. In some industries, indeed,

the wages paid in that particular State are under those of any other of the leading States, and this may sufficiently explain the fact that the average increase shown over the general wage-rate of the United Kingdom in the table just quoted, does not, so far as the major industries are concerned, correspond with that previously given for the United States as a whole. This fact is made sufficiently clear by a comparison of the average daily rate of wages paid in the leading cities of the United States in 1883.[1]

It would be an easy matter to reproduce many similar tables, but we forbear. The general character of the wages differences that distinguish the two countries from one another, and the different leading cities of America, are perhaps made sufficiently apparent by the returns already quoted. We will now, therefore, pass on to consider how Great Britain compares with Continental countries. We would first of all, however, remark, with regard to the rates of wages paid in the United Kingdom, that there are no official statistics published that are accessible to the general public, and at the same time of adequate value. The volumes of "Miscellaneous Statistics," pub-

[1] A Report by Consul-General Booker on the Trade, Navigation, and Commerce of New York for the year 1882 (Commercial Series, No. 32, 1883), contains the following return of the daily wages paid in that year :—

| Occupation. | New York. | Cincinnati. | St. Louis. | Chicago. | Philadelphia. | Boston. | Baltimore. |
|---|---|---|---|---|---|---|---|
| | Dol. c. | Dol. c. | Dol. c. | Dol. c. | Dol. c. | Dol. c. | Dol. c. |
| Bricklayers . . . | 4 00 | 4 50 | 4 50 | 3 50 | 3 50 | 3 25 | 3 50 |
| Brickmasons (fronts) | 5 00 | 4 50 | 4 25 | 4 00 | 4 00 | 3 50 | 4 00 |
| Carpenters . . . | 3 50 | 3 00 | 4 25 | 3 00 | 2 75 | 3 00 | 2 50 |
| Cabinetmakers . . | 3 50 | 2 50 | 3 00 | 3 50 | 2 25 | 3 00 | 2 50 |
| Finishers . . . . | 3 50 | 3 00 | 3 50 | 3 50 | 1 90 | 3 00 | 2 50 |
| Foundrymen . . . | 3 50 | 2 50 | 3 00 | 2 00 | 2 50 | 2 00 | 2 50 |
| Blacksmiths . . . | 3 50 | 2 50 | 1 60 | 2 75 | 2 50 | 2 00 | 2 50 |
| Labourers . . . . | 2 00 | 1 50 | 2 00 | 1 75 | 2 25 | 2 50 | 2 50 |
| Painters . . . . | 3 00 | 2 50 | 2 75 | 3 00 | 2 50 | 2 50 | 2 25 |
| Plasterers . . . . | 4 00 | 3 50 | 4 00 | 3 00 | 3 00 | 3 50 | 3 50 |
| Stonemasons . . . | 4 00 | 3 50 | 3 00 | 3 75 | 3 50 | 3 00 | 3 50 |
| Stonecutters . . . | 4 00 | 3 50 | 3 50 | 3 75 | 3 25 | 3 50 | 3 25 |
| Tin-roofers . . . | 3 00 | 3 00 | 2 50 | 2 75 | 2 50 | 2 75 | 3 00 |
| Slaters . . . . . | 3 00 | 3 50 | 3 50 | 2 75 | 3 00 | 2 75 | 3 00 |

lished by the Board of Trade at three-yearly intervals, contain lists of the rates of wages paid in a certain number of selected occupations or industries in different towns; but the value of such returns, which would otherwise be considerable, is very greatly reduced, and for purposes of comparison rendered all but worthless, by the fact that they seldom apply, in two consecutive publications, to the same town or district. In one return the rate of builders' wages will be given for, say, Edinburgh, and in the next for Belfast. Now, it may be of some value for the one town to know what rates of wages are paid in the other; but if the student of economic statistics wishes to follow the variations in the rates of wages, and to trace the causes and effects of such a movement, he is not assisted in his inquiries by wage-returns which apply at one time to one extremity, and the next time to another extremity, of the kingdom. It would not be difficult, one would think, to make these returns much more uniform and complete than they have yet been made. They are generally furnished by the local chambers of commerce, which ought to be able to supply corresponding data at any time, so that there would seem to be little or no excuse for the serious impairment of the value of these returns to which we have called attention.

Returning, now, from this digression, we shall endeavour to estimate the differences that distinguish English from Continental wage-rates. In 1878, the American Government instructed the consuls of that country in different parts of the world to collect and send in returns of the rates of wages paid in the principal industries carried on in their several consular districts. These valuable reports were published by the Secretary of State in 1879, and they furnish, collectively, perhaps the best guide to the wage-rates of different countries that has hitherto been made available—at any rate, since the similar reports made to the Foreign Office in 1870 by our own consuls at the instance of Lord

Clarendon, and continued two years later at the request of Lord Granville. A summary of the reports is herewith presented:—

*Comparative Rates of Weekly Wages Paid in Europe and in the United States in 1878.*

| Occupation. | Belgium. | Denmark. | France. | Germany. | Italy. | Great Britain. | United States. | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | New York. | Chicago. |
| | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. |
| Bakers | 18 4 | 17 8 | 23 1 | 14 7 | 16 3 | 27 2 to 27 6 | 21 2 | 33 10 |
| Blacksmiths | 18 4 | 16 3 | 22 8 | 14 9 | 16 5 | 29 4 „ 33 10 | 42 3 | 38 0 |
| Bookbinders | ... | 15 6 | 20 2 | 15 11 | 16 3 | 27 2 „ 32 7 | 50 9 | 38 4 |
| Bricklayers | 25 0 | ... | 16 8 | 15 0 | 14 4 | 31 7 „ 37 7 | 50 7 | 25 5 |
| Cabinetmakers | 20 0 | ... | 25 0 | 16 6 | 20 7 | 32 1 „ 35 4 | 38 0 | 29 9 |
| Carpenters and joiners | 22 6 | 17 8 | 22 7 | 16 8 | 17 5 | 30 6 „ 34 4 | 38 0 | 29 8 |
| Farm labourers | ... | ... | 13 1 | 12 0 | 14 7 | 14 2 „ 17 8 | ... | ... |
| Labourers, porters, &c. | 12 6 | ... | ... | 12 2 | 10 10 | 18 9 „ 20 10 | 25 4 | 21 2 |
| Painters | 17 6 | 17 3 | 20 5 | 16 4 | 19 2 | 30 2 „ 34 0 | 42 4 | 25 6 |
| Plasterers | 22 6 | ... | ... | 15 10 | 18 1 | 32 0 „ 42 2 | 42 3 | 38 1 |
| Plumbers | 25 0 | ... | 22 11 | 15 0 | 16 3 | 29 8 „ 35 3 | 50 9 | 50 10 |
| Printers | ... | 19 3 | 19 7 | 20 0 | 16 3 | 31 4 „ 32 3 | 34 1 | 50 9 |
| Shoemakers | ... | 13 9 | 19 9 | 13 0 | 18 0 | ... 30 7 | 50 9 | 38 3 |
| Tailors | ... | 17 1 | 21 3 | 14 11 | 17 11 | 20 10 „ 30 5 | 42 5 | 25 9 |
| Tinsmiths | 20 0 | 16 3 | 18 4 | 15 2 | 15 0 | 25 0 „ 30 5 | 42 3 | 38 0 |

The value of these figures is greatly impaired by the absence of specific information as to the exact districts to which they apply. It will be found, for example, that although there may be certain districts in Italy where the average rate of wages is higher than in certain districts of Germany, yet the average rates of Germany are undoubtedly higher than those of Italy, whereas the table makes it appear as if they were lower. It will also be found that in a great part of Germany, and especially in Rhineland and Westphalia, the average rates are quite as high as, if not higher than those of France; but the contrary impression would be irresistibly formed by an examination of the table. In other districts, however, and especially those of Saxony and Silesia, the rates of wages are very low. The following specific details of wages are contributed by the United States consul at Bremen, Germany, who says—

"For agricultural labourers the rate of wages varies greatly throughout the German Empire, rising or falling according as the locality is near to or remote from manufacturing centres. To exemplify this, I give below the present daily rate of wages for various parts of Germany:—

| | s. | d. |
|---|---|---|
| Bremen and vicinity | 2 | 4 |
| Bavarian Highlands | 2 | 2½ |
| Upper Rhine Valley | 1 | 8½ |
| Lower Rhine Valley | 1 | 3½ |
| Lake Constance and environs | 1 | 8 |
| Lower Highlands | 1 | 4½ |
| Upper Alsace | 1 | 10½ |

"These labourers board themselves.

"The wages now paid throughout this consular district, embracing Silesia and a portion of the Rhine Provinces, are as follows, viz.:—

"Machinists, locksmiths, waggon smiths, coppersmiths, plumbers, carpenters, joiners, masons, and hack-drivers, 2s. 1 1½d. a day, boarding themselves.

"Navvies, day labourers, saddlers, and shoemakers, 1s. 11½d. a day, without board.

"Butchers, bakers, chimney sweepers, 2s. 5½d. a day, without board and lodging.

"Butchers, bakers, and brewers, 8s. 11d. per week, with board and lodging.

"Cooks (females), £7, 10s. to £8, 19s. 2d. per year, with board and lodging.

"Cooks (males), £10 to £10, 8s. 4d. per year, according to merit, with board and lodgings.

'Weavers and factory hands, 14s. 10d. per week, without board.

"Artisans and mechanics, 2s. 11½d. per day."

These examples are sufficient to show the general range of wages in Germany, which, taking the longer hours of work into account, is much under that of England.

So far as France is concerned, the rates of wages vary enormously as between Paris and the provinces—much more so than the differences between the metropolis and the rural districts of any other country. In some cases, as in that of brickmakers, the difference is as much as 100 per cent., and, in a general way, it will be found that while the wages of Parisian artisans are approximately similar to those paid in the large manufacturing towns of England, excluding the metropolis, those paid in the provinces are much below the lowest wages of English labour. There has, however, been a tendency within recent years to bring the average of the country more nearly on a level with that of the town. Since 1853, the average increase of wages in twenty-three leading occupations has been 65 per cent. in the provinces, as compared with only 53 per cent. in Paris. In 1882, Parisian masons were paid as much as 6s. 3d. per day; tailors, 6s. 8d.; slaters, 6s.; and carpenters and painters, 5s. 10d. These rates are approximately equal to those paid in such towns as Manchester and Leeds; but it must not be forgotten

that the hours of labour in France are considerably longer. An official return [1] shows also that while these were the rates paid in Paris, rather less than half the same amounts were paid in the provinces, where the average daily wages of the five occupations specified amounted in 1883 to about 3s. per day.

So much for the general character of the labour question as it affects France. In this regard, there can be no greater error than to treat Paris as typical of the rest of the kingdom. The capital is, indeed, as entirely distinct from the provinces generally, in the character of the industries followed, in the rate of wages, in the cost of living, and in many other economic aspects, as if it were part and parcel of another hemisphere. France is, in general, characterised by *low wages and long hours of labour*. If there is any difference, the average rate of wages is rather higher than that of Belgium, but in a number of provinces in the south the rate of wages is decidedly lower. This has not prevented the country from making remarkable progress within recent years. In 1869, the annual value of the commerce and industry of France was calculated at 1181 millions sterling, or £31 per inhabitant; in 1880, it was estimated at 1325 millions, or £35, 12s. per inhabitant. In the meantime the country had lost two provinces and paid a war indemnity of 200 millions sterling, not to speak of the enormous expenditure and loss entailed by carrying on the war, which Mr. Giffen has estimated at upwards of 500 millions sterling. And it is perhaps no less remarkable that Germany, although richer by the amount of the losses just referred to, and suffering much less by the necessary expenditure entailed in carrying on the war, showed in 1880 an increase of commerce and industry only exceeding the figures of 1869 by 6½ per head, against an increase of 15 in France, and 9 for Great Britain. The figures just quoted are not, however, to be taken as indicative of an equally remarkable improvement

[1] "The Annuaire Statistique for 1884."

of the hold of France on the markets of the world. The truth is that the progress in question has taken place mainly in the matter of *imports*, which have increased by 55 per cent., against an increase of only 6 per cent. in *exports*, during the period under consideration. Mr. Mulhall very properly points out, in this connection, that in France the "imports are 48½ per cent. over exports (just the same ratio as in Great Britain), and yet France is not rushing to bankruptcy, but accumulating wealth every year." We have seen, however, that this increase of wealth is not based upon any great increase of her manufacturing supremacy in neutral markets.

With regard to Belgium, there is no European country that is more frequently quoted as an example of what cheap labour can achieve as against England. There is assuredly no other country in Continental Europe that has the advantage of cheaper labour relatively to its efficiency. Hence we find that Belgium has the largest ratio of industry per inhabitant among Continental nations, excepting only Holland. And its industries are being developed with characteristic enterprise. Between 1870 and 1880, the value of the commercial and industrial interests of Belgium is stated to have been increased by *fully fifty-five millions sterling*. Of this increase, *thirty-nine millions* are represented by commerce, and *twelve millions* by manufactures. In 1870 the commercial and industrial wealth of the country represented an average of £37, 1s. per inhabitant; in 1880 it was equal to £44 per inhabitant, showing an increase of about twenty per cent.

In the preceding chapter, it has been shown that between 1845 and 1884, the rates of wages paid in Belgium in certain leading occupations increased by more than 100 per cent., which is considerably over the average increase in the United Kingdom within the same period. Forty years ago, the average amount of wages paid to artizans, miners, ironworkers, &c., averaged 1s. 3d. to 1s. 4d. per day. In England, the average at the same

period would be at least double that amount. At the present time, the average wages paid in the same employments are 2s. 6d. to 2s. 8d. per day in Belgium, and 4s. 6d. to 5s. per day in England.[1] It would seem, therefore, as if the differences in the rates of wages as between the two countries remain to-day much what they were forty years since. But if we add to the increase of English wages the reductions that have taken place in the hours of working, we are likely to find that the relative cost of labour in Belgium, where twelve hours' work per day is still the rule, is even less now than it was then; or in other words, that, *measured by the test of wages cost alone*, Belgium is now in a better position to compete with England than ever.

Although Russia has scarcely, as yet, attained to the dignity of an important manufacturing nation, it has of late made such progress in that direction as to demand consideration here.

The industries of Russia are chiefly carried on in the neighbourhood of Moscow and St. Petersburg. In the former city, and its immediate environs, there are 930 manufacturing establishments, employing 291,279 persons, and producing goods to the value of over 105 million roubles annually. In the province of Moscow there are 2516 manufactories, employing 188,853 hands, and turning out goods of the annual value of 167½ million roubles. St. Petersburg again employed, in 1875, 41,164 operatives in 521 manufactories, and produced goods of the total value of 83 million roubles.[2] These two are, however, the only towns in the empire of any considerable size. There are, indeed, only 127 towns in the whole of Russia, 25 of which contain more than 25,000 inhabitants, while only 11 have more than

[1] This is, of course, an approximate figure, based on an average of different districts, and does not pretend to absolute accuracy, as it affects particular districts.

[2] Gallenga's "Summer Tour in Russia," p. 137.

50,000. The rural population, at the time of the emancipation of the serfs, was reckoned at 60 millions, of whom 23 millions were state peasants, 23 millions more belonged to private landowners, and 3 millions to appanages and other departments.[1]

It is extremely difficult to furnish any reliable statement of the rate of wages paid in Russia. The great majority of the people follow agricultural pursuits under a system that may be described as one of peasant proprietorship, each man having a certain quantity of land that he is required to cultivate, and whence his main subsistence is derived. Factory labour, as we shall see in a succeeding chapter, is paid at a much lower rate than in England, and so also with mechanical industries. But there is, indeed, no question as yet of Russia competing with the rest of Europe, either in the remuneration or the efficiency of its labour. Russia is able to send us enormous quantities of wheat, petroleum, hemp, and flax, because she has special resources for the production of those commodities. And it is far from certain that we should not receive quite as much, even if Russian labour were a greatly more costly commodity than it is. The general range of artisan labour may be estimated from the following return of the rates paid at the petroleum wells of Báku, on the Caspian Sea:—

| | | |
|---|---|---|
| Labourers | 1s. | per day. |
| Masons | 3s. to 4s. | „ |
| Carpenters | 2s. to 3s. | „ |
| Blacksmiths | 2s. | „ |
| Stokers | 40s. | per month. |
| Furnacemen | 40s. | „ |
| Overseers | 100s. | „ |
| Enginemen (Germans) | £25, | „ |
| Analytical Chemists | £25, | „ |
| Clerks (10 hours per day) | £7, 10s. | „ |

These rates are stated to be high in Russia, where a lieutenant in the Imperial navy only gets £10, and a

[1] Mackenzie Wallace's "Russia," pp. 146, 167, eighth edition.

captain £25 per month. The wages paid in Moscow and St. Petersburg take a considerably lower range. Whether the wages are adequate to the degree of efficiency which they represent we cannot here stop to discuss.

Italy is the only other European country that we shall specially refer to. There, as is generally known, the nominal cost of labour is relatively very low, and industries generally are in a very backward state, notwithstanding that, except in the matter of coal, Italy has natural resources at least equal to those possessed by any other European nation. The rate of wages paid at the leading engineering establishment in Leghorn—that of Orlando Brothers, where 600 hands are employed—is stated in a recent consular report [1] to be as under:—

| Occupation. | Class 1. | | Class 2. | | Class 3. | |
|---|---|---|---|---|---|---|
| | Lire.[2] | Lire. | Lire. | Lire. | Lire. | Lire. |
| Modellers | 5 50 to | 4 00 | 3 75 to | 3 25 | 3 00 to | 2 50 |
| Fitters | 4 50 | 4 00 | 3 75 | 3 25 | 3 00 | 2 50 |
| Turners | 4 50 | | 3 75 | 3 25 | 3 00 | 2 50 |
| Boilermakers | 8 00 | 5 50 | 4 00 | 3 50 | 3 00 | 2 50 |
| Moulders | 5 00 | 4 00 | 3 75 | 3 25 | 3 00 | 2 50 |
| Carpenters | 5 50 | 4 50 | 3 75 | 3 50 | 3 00 | 2 75 |
| Tinsmiths | " | " | 2 50 | | " | " |
| Engineers and Firemen | 5 00 | 3 25 | 2 75 | 2 50 | 2 25 | |
| Labourers | 4 00 | 2 00 | " | " | " | " |
| Apprentices and boys | 2 00 | 0 50 | " | " | " | " |

The above wages are for 10 hours work. The system of piecework enables the artisan to add largely to his earnings. The wages paid in the textile industries of Italy will be subsequently referred to.

The problem presented for solution in this chapter could not be regarded as either fairly or fully examined if we did not travel yet farther afield and consider the condition-of-labour question as it is presented to us by a study of the circumstances and probable future of that

[1] "Reports of H.M.'s Consuls," No. 21, 1884, p. 692.

[2] 1 lire = 10d.

great Mongolian race over which we exercise so large and important a sovereignty, and from which, unless appearances are greatly deceptive, we must look for a certain amount of successful rivalry in the time to come.

In neither India nor China has there been that general tendency to a considerable rise of wages which we have found to prevail in European countries. As labour was hundreds of years ago, so it is to all intents and purposes to-day, unless, indeed, it be that taxation is heavier, and that there is thus a less proportion of the bare subsistence money available for that purpose. It is even maintained by some writers on the subject that under British rule the condition of labour in India has become worse than it was under the Mogul dynasty. Of this contention, however, there does not appear to be adequate proof. The statistics of the subject are, as might be expected, very meagre, and not at all so authentic as could be desired. The Oriental is not greatly addicted, under any circumstances, to the collection of statistical data, and when he does essay to enter upon such a task, he has a lamentable tendency to exaggerate according to his special preferences. Nevertheless, a considerable amount of light is thrown upon the condition of India during the Mogul dynasty, and especially during the reign of the Emperor Akbar (1556–1605), by the minister and friend of that potentate—Abul Fazl. According to this authority, the following wages were then paid to the artisans, &c., employed by his majesty:—

| | | |
|---|---|---|
| Bricklayers, | 2¼d. to 4d. | per day. |
| Carpenters, | 1½d. to 4d. | „ |
| Sawyers, | 1⅔d. | „ |
| Stonemasons, | 1⅔d. to 2d. | „ |
| Divers (for clearing wells) | 1⅔d. to 2½d. | „ |
| Labourers and thatchers, | 1½d. to 1¾d. | „ |

| | | |
|---|---|---|
| Palanquin bearers, | 5s. 9d to 8s. 6d. | per month. |
| Elephant keepers, | 4s. 9½d. to 9s. 7d. | „ |
| Farriers, | 7s. 8d. | „ |
| Water-carriers, | 4s. 9½d. | „ |
| Sweepers, | 3s. 1½d. | „ |

With regard to the present condition of Indian industrial or artisan labour, a native writer points out that although it appears to be handsome by comparison with that employed in agriculture, yet the artisan is really no better off, because he does not allow his wife and family to work, which the agricultural labourer does. The average wages of a few of the leading classes of artisans are stated to be:—

*Lohar* (blacksmith), 3d. to 5d. per day.
*Barhai* (carpenter), „ „
*Darzi* (tailor), „ „
All with *chabena* (roasted grain) for breakfast, and food at night if they work late.
*Komhar* (potters), ¼d. for two or three jars.
*Naddaf* (carder), 1d. to 1½d. for carding 4lbs. of cotton, and stuffing a quilt with it.
*Jolahas* (weavers), 2d. to 3d. per day.
*Pathar* (lacemakers), same as weavers.
*Chawkida* (village messengers), 10s. to £3 per annum.
*Patwaris* (village clerks), £1 to £8 a year.

On an average, the income of the artisan or industrial population throughout India is said to be not more than 3d. per head, and of workers in textile factories, blanket weavers, and workers in chemicals, &c., even less than that.

The principal industries carried on in China, excluding agriculture, are iron and copper smithwork, charcoal and lime-burning, soap-boiling, pottery, and paper manufactures. In the Ichang district, workmen in these occupations are paid about 4d. per day, and get their food besides. A great part of the population subsist by boating and fishing, the rate of wages paid to hired boatmen being about 8d. per day, without food. These figures, however, can scarcely be regarded as representing the total earn-

ings of the workers, most of whom employ their leisure time in gathering fungus, which is largely exported, and in rearing bees and silkworms, which is often a profitable trade.

Enough has already been stated to make it abundantly manifest that in considering the differences in the rates of wages paid as between one country and another, it is not enough to take account of the nominal amount only for a given period. If we say that in England the average wages paid to artisans is 20s., and in the United States it is 30s., we should convey a very imperfect idea of the real facts of the case unless we pointed out that in the United States the average number of hours worked per week was approximately some 10 or 15 per cent. more than in England, against a nominal difference of 50 per cent. in wages. Hence it is of the utmost importance to compare, not only the rates of wages, but the number of hours of labour to which those rates apply. But here again our task is beset by the most formidable difficulties. No two countries have the same regulations or customs with regard to the hours of labour. In some trades, as in our own textile industries, the hours are specially limited by Act of Parliament, and in such cases the facts are easily arrived at, but when we travel beyond manufactures thus regulated, it becomes so difficult as to be all but impossible to give an average of the hours of labour worked in a single leading industry, much less in the whole of the industrial occupations followed throughout the country. Take the building trades as an example of the want of uniformity that exists in this matter. In Liverpool, bricklayers work, on an average, 55 hours per week in summer, and 47½ in winter; in Darlington, 49½ and 45; in Sheffield, 49½ and 47; in Glasgow, 51 and 43; in London, 52½ and 47; in Birmingham, 54 and 47¾; and in Folkestone, 56. In many cases the hours of labour differ, as between one branch and another, in the same factory or shop. In Glasgow, according to

returns furnished by the Chamber of Commerce,[1] mechanics work 54 hours per week, the almost invariable limit for this class throughout the country, but firemen work for 65 hours, and draughtsmen for 47½. And so it is all through the piece. *Ab uno disce omnes.*

Having so far cleared the way, we now proceed to remark that in every European country, without exception, the hours of labour are longer than in our own. Take the textile industries by way of exemplifying this fact. At Roubais, which is a centre of the French woollen industry, the hours of labour are 72 per week, beginning each morning at 6, allowing two hours for meals, and closing work at 8.30 P.M. for four nights in the week, thus making 12½ hours per day, so as to allow for stoping work at 6 o'clock on Monday and at 7.30 on Saturday nights. This is certainly a great contrast to English factories, where the hours are only 56 per week, and where work is suspended at 5.30 in the evening, and at 1 on Saturday afternoon. In the woollen and cotton mills of Germany and Belgium the hours of labour are much the same as in France.

In the woollen factories of Biella, in Italy, the hours of labour vary from 12½ per day in summer to 11½ in winter. Work is commenced in the summer at 5 o'clock, and continued until 7 at night, with an hour and a half for meals. In the winter the hours are from 7 a.m. till 8 p.m., with the same interval. In the silk factories of Northern Italy, work extends to 94½ hours per week, or 15¾ hours per day, exclusive of meal hours, the factories being open from 5 a.m. till 10 p.m.

The following tabular statement shows how the hours of labour abroad generally compare with those at home:—

[1] "Miscellaneous Statistics of the United Kingdom," Part ii.

*Hours of Labour in Different Countries.*

| Country. | Textile Factories. Hours per Week. | Machine Factories. Hours per Week. | Percentage of Excess over Great Britain. | |
|---|---|---|---|---|
| | | | Textile Factories. | Machine Factories. |
| Germany . . . | 72 | 60 | 28 | 15 |
| France . . . | 72 | 60 | 28 | 15 |
| Austria . . . | 66 | 66 | 18 | 27 |
| Russia . . . | 72 to 84 | 72 | 28 to 50 | 38 |
| Switzerland . . | 66 | 66 | 18 | 27 |
| Belgium . . . | 72 | 62 | 28 | 20 |
| Italy . . . . | 69 to 90 | 72 | 23 to 60 | 38 |
| Holland . . . | 72 | 64 | 28 | 23 |
| United States . . | 60 | 60 | 8 | 15 |
| United Kingdom . | 56 | 52[1] | ... | ... |

It is necessary to observe, with reference to these figures, that although they are authentic as applied to particular and leading districts, as well as with reference to staple industries, they are not to be taken as applying to all districts and all industries alike. They will be found, however, to fairly reflect the general condition of the several countries tabulated, with regard to the hours of labour.

Another matter that has a somewhat important bearing upon the rates of wages is the extent to which women and young children are employed. The employment of female labour is specially dealt with in another section of this work. With regard to children, the circumstances of the different European nations are more nearly on an equality now than they were when the Factory Acts were first applied to English factories, with a view to reducing the hardships, and the entailed evil consequences, that formerly pertained to child labour. England, which set the example in bringing about this great amelioration, has had the satisfaction of seeing both Germany and France following in her footsteps, and,

[1] In some machine factories the hours are 54 per week, but in the majority they will be found to average about 52.

if anything, going even farther than herself in the direction to which her initiative pointed. In Germany children under fourteen years of age are not permitted to engage in any kind of factory employment, and relatively to the industrial population, the number of children at work is probably less than in any other country in the world.

In France the number of children employed in factories is less than in England. Children under twelve years of age are not allowed to work in French factories, and for three years after that they have to attend school two hours per day. In Italy, on the contrary, in the absence of any Factory Acts, children begin to work at eight years of age; and at that tender age they often do the full day's work of twelve and a-half hours—their earnings in factories varying from 4d. to 7d. per day.

Russia, again, has hitherto been very much on all fours with Italy—if possible, it is probably even worse. One of the professors at the University of Moscow, who has recently undertaken an inquiry into the industrial condition of Russia, has found that the labour of young children is employed in that country to a more considerable extent than in any other European country. In the paperhanging factories of Moscow, 38 per cent. of the workers were children under 15 years of age; in the furniture and piano factories 27 per cent.; in the glass factories 25 per cent.; and in tobacco factories 24½ per cent. One-fifth of the children employed were under 12 years of age, and a large proportion of them were under 10. In 1882, however, a law was passed which is designed to limit the employment of young children in Russian factories. Under this law, children between 10 and 12 years of age will only be allowed to work under exceptional circumstances. Between 12 and 15 years, children will not be allowed to work more than 8 hours per day. The employment of children under 10 years of age is altogether prohibited.

In Austria much-needed reforms in the condition of

the working classes were introduced in 1884, being amendments of the old Trade Law of 1859. By the new law, miners are not permitted to work more than 10 hours per day, and no children under 14 years are allowed to be employed. In manufactories, the working day is limited to 11 hours, children under 14 years are not to be employed in any regular work, and from 14 to 16 they are only to be employed on such light work as is not likely to affect their health prejudicially.[1] Neither women nor children are allowed to work at night. Sunday is to be observed as a day of complete repose, and persons under 18 are to be allowed sufficient time to attend the evening schools.

Switzerland has much the same law with regard to the employment of children as Austria and Germany. None are to be employed under 14; and until they are over 18 years of age they are not permitted to labour for more than 11 hours per day.

In Belgium there is no factory law, but by agreement among employers children are not generally admitted to the factory under twelve years of age. Some years ago, in the district of Verviers, an inquiry was made as to the number of children of tender years employed in woollen factories, and it was discovered that only 51 were employed under twelve years.

From all that has gone before it will be obvious that England cannot now, under any circumstances, lose by comparison with other European countries in the matter of juvenile labour. It is much to the discredit of the United States, that thousands of children between ten and twelve years of age are still to be found labouring in the factories of New England; but whether the country as a whole gains anything by this circumstance may well be doubted.

It may probably be expected that we should attempt

[1] The Austrian law is now much the same as that which has for a number of years been operative in the German empire.

to summarise the various *data* that we have now presented, with the view of showing the exact differences that are found to exist as between the rates of wages paid in the several countries dealt with. But many of the conditions stated are so dissimilar, that if we attempted anything of the kind our task would be more that of a contrast than a comparison. The truth is, that comparisons of wages in different countries scarcely admit of being formulated very precisely; and it is necessary to regard all such rates in relation to the many circumstances which have a tendency to qualify them and limit the range of their application.

Among the more obvious of these circumstances attention may be directed to the fact that the economist can, at the best, deal only with partial, and, therefore, incomplete, figures. He cannot specify the exact average rate for any one country; for not only do rates vary greatly as between one district and another, but they are often to be found differing as between two places in the same county or neighbourhood. It is manifest, moreover, that a distinction should be made between the gross and the nett wages paid. In some districts, it is the custom to make considerable deductions from wages for local and trade purposes; in others, this practice is scarcely followed at all. Then, again, the rate of wages seldom remains stationary for any long period of time; it is liable to continual variations, which require to be appreciated and allowed for in order to come at a correct average.[1] Wages are, besides, continually being affected by changes of processes and by the introduction of new mechanical appliances, as we have already seen with reference to hand-loom *versus* power-loom weavers. But all these considerations, while they prove the difficulty of reducing to the certainty of a mathematical demon-

[1] This remark is specially applicable to the wages of miners and iron-workers, when they are regulated by a sliding-scale according to the fluctuations in the realised selling price of the commodities they produce.

stration the cardinal points of this inquiry, fail to vitiate its main conclusion, or to obscure the true tendencies and character of the labour question as between the different states of Europe and the rest of the world. It may not be that England is in danger of the loss of supremacy from the relatively higher wages which are paid to our artisans, but it will be found, as we proceed, that other countries do not fail to attach much importance to the possession of their cheaper labour and longer hours of work, and that the more costly labour of America is only too vividly reflected in the commercial circumstances of that country.

It now behoves us to inquire what tendency is the relative remuneration of European and American labour likely to follow in the near future? Is it likely that the labour of this country will be levelled up to the rates of the United States, or is it more probable that the labour of the latter country will become assimilated to that of England? Much will depend upon the ultimate solution of this problem. If, as many people seem to suppose, the range of wages paid in the United States should fall, without any corresponding movement of wages in England, then it is more than probable that we shall have to accommodate ourselves to a very much keener rivalry in neutral markets, on the part of our American competitors. And this is an outlook that has many strong arguments to support it. The higher rate of remuneration paid in manufacturing occupations, has caused very many who formerly followed agriculture in the United States, to abandon it in favour of mechanical and mining industries. It has been calculated that during the ten years ending with 1890, more than a million persons who, under natural circumstances, would have gone to swell the agricultural population of that country, will have embarked in manufactures, and other productive employments instead, so that the supply of labour available for the latter will be greatly in excess of the demand.

From this circumstance a material decline in the money rate of wages may be expected to follow, which, in turn, may induce a much more considerable development of American manufactures. The first part of this programme has already been fulfilled. It has been ascertained that between 1882 and the end of 1884, nearly 350,000 persons employed in manufactures in the sixty chief towns of the United States were thrown out of employment. This result has, of course, been as much and possibly more directly due to a contraction of manufacturing operations induced by the general depression of trade, as to a glut in the labour market. But however caused, the effect of the movement has been, and will always continue to be, the same. Wages are invariably reduced when the supply of labour in any given industry is greatly in excess of the demand, and in the United States, in the interval just named, reductions of the rate of wages have taken place in nearly every important industry, the amount ranging from 5 to 30 per cent. It is a remarkable feature of this period that in spite of a tariff which excludes the possibility of foreign competition by adding an average forty-three per cent. to the cost of every human requirement except food, and is ostensibly designed to keep up the remuneration of American labour, the recent depression has had an even more adverse effect upon the labour thus protected than upon that of free-trade England.

## CHAPTER XII.

### *ENGLAND'S TEXTILE INDUSTRIES—COTTON.*

In considering, as we now propose to do, the comparative circumstances of England as a manufacturing nation, the cotton industry is entitled to primary examination, both by reason of its vast extent and importance, and because it furnishes the most remarkable example known in the world's history of a manufacture being established and attaining immense proportions under conditions which, although certainly not unsuited for its development, were yet by no means such as to afford any facilities of a very special or local character.

The first thought that presents itself on a review of the growth of our cotton industry is its entire dependence upon imports of raw material. In this respect it differs from almost every other staple industry. We import large quantities of wool for our woollen manufactures, but we also grow large quantities at home. We receive from Spain and Italy considerable quantities of ores of iron for our metallurgical industries, but we raise a very much larger quantity within our own shores. Our great chemical industry is dependent upon imports of pyrites from Spain, but practically all the other raw materials required in alkali works are indigenous to our own soil. In the manufacture of paper we use large quantities of imported materials, but we also find a very large quantity at home. In all these, and many other manufactures that might be named, we are in possession of a certain proportion of the raw materials required for their suc-

cessful prosecution. But in the case of the cotton trade, every ounce of the raw material used is imported from abroad, and consequently Great Britain has to compete in the markets of the world with countries that both grow and manufacture the raw materials.

Notwithstanding the disadvantage involved in the additional cost of bringing the raw materials distances varying from 5000 to 10,000 miles to the centre of its manufacture—from the cotton-fields of Carolina, the plains of India, and the delta of Egypt, to the mills of Lancashire and Cheshire—England has hitherto been able to hold her own in the markets of the world. She has lost some ground relatively, but not absolutely. Is there any reason why, in the nature of the case, she should not maintain her superiority, which appears to be based, not upon the possession of unique natural resources, but upon the much less reliable and permanent foundation of practical skill, the best machinery, and the command of capital—all of them advantages which may some day be possessed in an equal degree by competing countries that have, in addition, the raw materials within themselves?

Next to the question of our food supplies, it is a matter of importance to inquire into the comparative resources of different countries for the prosecution of an industry that plays so important a part in the clothing of mankind. May England expect to maintain her superiority in this, which has hitherto been one of her most lucrative functions? Is she still likely to prove to the world, as she has done in the past, that indigenous raw materials are not essential to the building up and maintenance of a great manufacture? Or, in other words, is our country likely to make manifest that the endowments, which she possesses in so high a degree, of acquired skill, aptitude, and mechanical resource, are sufficient in the future, as they have been in the past, to keep her well in front of other countries whose endowments are more natural than acquired?

We will now proceed to bring the considerations that have just been stated to the test of facts and figures. Mr. Joseph Spencer, in a paper read before the Manchester Statistical Society in 1877, gave the following statistics of the number of spindles in the cotton mills of the world at different dates during the last half-century:—

| | United Kingdom. | Continent of Europe. | United States of America. |
|---|---|---|---|
| In 1832 . | 9,000,000 | 2,800,000 | 1,200,000 |
| „ 1845 . | 17,500,000 | 7,500,000 | 2,500,000 |
| „ 1875 . | 37,500,000 | 19,500,000 | 9,500,000 |

The increase was:—

| | | | |
|---|---|---|---|
| 1832-45 . | 8,500,000 | 4,700,000 | 1,300,000 |
| 1845-75 . | 20,000,000 | 12,000,000 | 7,000,000 |
| Total increase | 28,500,000 | 16,700,000 | 8,300,000 |

It appears that although the increase in the consumption of cotton in the last fifty years on the Continent of Europe was equal to three-fourths, and the increase in that of the United States of America one-half of the increase in Great Britain, it is nevertheless true that our spinners have set to work 243 per cent. more spindles than the Americans, and 72 per cent. more than Continental spinners.

These conclusions seem to be mutually contradictory, but are only so in appearance. The absolute increase in the weight of cotton consumed in the fifty years has been—

| | |
|---|---|
| Great Britain . . . . . | 1,016,000,000 lbs. |
| Continent of Europe . . . . . | 737,000,000 „ |
| America . . . . . | 501,000,000 „ |

Great Britain has thus taken of the total increase 37 per cent. more than the Continent of Europe, and 102 per cent. more than the United States of America.[1]

[1] The average counts of yarn, and weight of goods produced in the United Kingdom, are lighter and finer than the average of either the Continent of Europe or the United States of America.

Up to a certain point, these figures are certainly satisfactory. But on the authority of returns compiled by Messrs. Ellison & Co., it is shown that while the cotton trade of Great Britain has made but little progress during more recent years, that of the United States and Continental Europe has made enormous strides. In the deliveries of raw cotton for consumption, between 1873 and 1883, there was an increase of only 1.58 per cent. in Great Britain, as against 41.73 per cent. in Continental Europe, while in the United States the consumption of raw cotton within the same interval has increased by 61.2 per cent. On this showing, it would appear that while Great Britain has not absolutely retrograded, her progress within recent years has been inferior to that of competing countries, although she still consumes nearly 3½ millions out of a total of rather over 9 millions of bales consumed in the United States and Europe conjointly, being close on 40 per cent. of the whole quantity so disposed of.

The relative loss of ground which these figures imply has not apparently been due to any failure of English cotton-spinners to adopt improvements in machinery and processes. On the contrary, there is abundant proof of the fact that in this respect England continues *facile princeps*. The efficiency of English factory labour continues to remain, as it has ever been, unsurpassed. This attribute is established by many conclusive evidences. Between 1850 and 1879, the average number of spindles per operative employed in our cotton mills increased from 63 to 91, being an increase of 44½ per cent. Between 1850 and 1862, the corresponding increase was only one from 63 to 67 spindles per operative, or not more than six per cent. In the United States, which, after the United Kingdom, is now the greatest cotton manufacturing country in the world, the increase in the number of spindles per operative was practically the same in percentage amount as in the United Kingdom, but at the

later date, the average productiveness of the cotton operatives of the United Kingdom, as expressed in the number of spindles used per *employé*, was 47 per cent. greater than that of the same class of workers in America.

Although these are the broad general facts brought out by an analysis of the official returns of both countries, it is yet important to remember that they may be, and indeed are, subject to important modifications. It is possible that the number of spindles unproductive in the United Kingdom, at any one time, would be greater relatively to the number of persons employed than in the United States, in which case, of course, the difference against the latter country would be correspondingly reduced. It is also probable that in the United States, there may be more looms employed relatively to spindles, which would still further reduce the difference. But it is extremely improbable that anything like the total difference of 47 per cent. would be absorbed by these two qualifying circumstances.

The cotton trade is one that gives employment to perhaps a larger number of females relatively to male operatives than any other great industry. Female labour is generally cheaper, but it is also more steady and continuous than male; and it is probable that in the future of the cotton trade much will depend upon the extent to which the employment of women and children is utilised. In this respect England and—although to a less extent—Continental countries have been proceeding upon the same lines; *i.e.*, the proportion of females to males employed has been increasing. In the United States, however, the tendency has rather been in an opposite direction. In 1851, the total number of *employés* engaged in our textile industries was 907,200, of whom 460,801, or 52 per cent., were females. In 1871, 58 per cent. of the total of 939,630 belonged to this category, and the census reports showed that in 1881 62½ per cent. of the total number of hands so employed were of the female sex. In the United

States, on the contrary, the percentage proportion of females fell from 64 per cent. in 1850 to 49 per cent. in 1880. The English cotton industry does not, as we have seen, appear to have lost in efficiency by comparison with that of America, in consequence of the fact just stated.

Another circumstance that is found in the cotton, as in most other industries, to be favourable to economical production, is the modern system of manufacturing on a large scale. All other things being equal, it will generally be found that the country that can maintain the largest and most fully equipped factories will manufacture with the greatest economy, and will consequently be able to secure the best place in the markets of the world. In the United Kingdom, as everywhere else, the factory system is a comparatively modern institution, of the comparative merits or demerits of which, apart from the consideration just stated, we shall not further speak. But it is important to notice that while previous to the inventions with which the names of Arkwright, Crompton, and Lee are associated, nearly all spinning and weaving was done at the homes of the operatives, that condition of things is now practically unknown. Factories of large and increasing size segregate the units of the textile population into larger and still larger communities. The average number of spindles per factory fell from 10,868 in 1850 to 10,525 in 1862, implying that during this period the profits of the cotton trade attracted into it a large number of small capitalists who could only manufacture on a limited scale. But as the margin of profit became less, many of the smaller firms found that they could not compete with the larger factories, and the process which followed during the next ten years of either weeding such firms entirely out, or absorbing them in concerns of greater magnitude, raised the average number of spindles per factory from 10,525 in 1862 to 15,399 in 1871, and to 16,531 in 1878. Concurrently with this

advance in the number of spindles employed, there was an average increase from 129 to 192 power-looms per factory, and an increase from 171 to 181 in the average number of hands employed. It will be observed, then, that while in the interval stated there was an average increase of 46 per cent. in the number of spindles, and of 49 per cent. in the number of looms per factory established, the increase in the number of hands employed was only about 6 per cent. This fact points to one of two conclusions—(1.) that the average productiveness of the operatives had greatly increased, which is a circumstance on which we have already commented; or (2.) that the proportionate number of spindles and looms inoperative was much greater at the earlier than at the later period, of which there is no evidence. In the United States, the average size of the factories at work has also grown larger from year to year. The average number of spindles per factory in 1831 was only 1556, while in 1880 it was 14,092. In the former year the number of operatives employed per factory was 65; in the latter year it was 220. From this it follows that the average size of the factory, as represented by the number of spindles, has increased by 800 per cent., while the average number of hands employed has increased by 240 per cent. during the period under consideration. There is, however, in the United States a very great difference in the average size of the factories, as between one group of States and another. In the New England States, which embrace 82 per cent. of all the cotton-producing power of the country, the average size of each of the 439 factories at work in 1880 was equal to 19,663 spindles, being 3132 spindles in excess of the average of the United Kingdom. In the Southern States, on the other hand, 161 factories had only an average of 3367 spindles per factory. The New England factories, on an average, were thus six times the size of those in the Southern States.

It is instructive to note that even in countries where the raw materials of commerce are abundant, it is not the practice to set up textile factories on the spot where these materials are most ready to hand. In the United States, for example, the great bulk of the cotton is grown in the Southern States; but these States had only, in 1880, an aggregate of half a million spindles, as compared with eight and a half million spindles in the New England States, where cotton is scarcely grown at all. The chief reason for this circumstance is probably that the New England States supply in a much higher degree the special skill and aptitude which is characteristic of our factory labour, while in the South, where the population is mainly agricultural, that description of labour is not readily available. The New England States also give more ready access to the markets in which American cotton fabrics are mostly to be found.

The comparative cost at which factories can be established in any particular country, and the consequent amount of capital necessary to be expended for the attainment of a given result, are matters of considerable importance in relation to the success of competitive power in neutral markets. All other things being equal, the advantage of having a small capital relatively to the resources of production will determine the result of the race. In this respect England occupies a distinctly superior position to that of any other country. Most other countries indeed, until very lately, and to a great extent up to the present time, have acquired both their machinery and the skilled labour necessary to its erection from Lancashire, thereby adding from one-third to one-half to the cost of erecting such a factory in England. This, however, is not an advantage that can be permanently relied on. America has already made provision for supplying the great bulk of her own requirements. The fact just stated is curiously reflected in the official census returns of the capital embarked in her cotton

industry. In 1831, the capital invested in American cotton factories was returned at £6514 per 1000 spindles. In 1860, the investment of capital for the same result had declined to £3766; and in 1880, it had risen again to £3910.[1] But while this latter figure represented the general average of the country, the averages of different groups of States varied enormously. In the New England States, as might be expected from their proximity to machine-factories and abundance of skilled labour, the average expenditure of capital per 1000 spindles was £3632; but in the middle group of States, it rose to £4459; in the Southern States, it advanced to £6412; and in the Western States, it was not less than £7125, or almost exactly double the average of the New England States. On this showing, it would appear that in Lancashire, where the cost of laying down a factory is very much less even than in New England, the expenditure necessary to any given production would be less than one-half that required in the States, whence our supplies of raw cotton are mainly derived. A very simple piece of arithmetic will show us how enormously this must help England's position. If our cotton manufacturers incurred precisely the same outlay per 1000 spindles as those of the New England States, the capital embarked in the cotton trade of this country would amount to 170½ millions of pounds. If, however, their average capital expenditure was equal to that incurred in the Southern States, its total amount would be run up to over 301 millions sterling, or 130½ millions more. As it is, we are without any reliable statistics of the capital embarked in our cotton industry; but it may safely be put at 15 to 20 per cent. less per 1000 spindles than even that of the New England States.

[1] This increase is apparently due to the very considerable rise of wages during these twenty years. The average advance of wages in manufacturing industries, as between 1860 and 1870, is stated by Mr. Edward Young to have been over 60 per cent.

In considering the subject of the differences that exist in the rates of wages paid to cotton operatives in competing countries, it is not without importance to examine briefly how they have compared in the past, before we proceed to compare the circumstances of the present. In such an inquiry, one of the first things that claims our attention is the singular amount of uniformity that is found in the growth of labour remuneration in different countries. This relation is attested by so many well-authenticated facts that it may almost be resolved into a law. In the cotton trade it is ascertained that between 1834 and 1884, the average wages paid to all operatives engaged in spinning in Lancashire increased by 63 per cent.[1] In the cotton mills of New England, the average wages paid to the same class of operatives rose between 1840 and 1884 by 64 per cent.[2]. In France (Nord), between 1840 and 1882, the average wages paid in the same descriptions of employment increased by 100 per cent., but the *amount* of increase was not so large as in either England or the United States, the percentage being expressed on a much smaller sum. It has been greatly the same in Belgium and in Germany as in France; the wages of cotton workers within the last fifty years have almost doubled.

We now proceed to make a comparison of the present rates of wages paid in the cotton industry of different countries. But however important such a comparison may be, so far as it goes, it is necessary to utter a word of caution as to the danger that always exists of attaching undue importance to variations of wages. Mere differences of this kind do not always, nor indeed generally, determine the problem of economical production, although undoubtedly they go some distance in that direction, and would become the final determinant if all

[1] Mr. R. Montgomery's address before the Manchester Statistical Society, November 1884, p. 14.

[2] Mr. Atkinson's "Metaphysics and Mechanism of Exchange."

other things were equal—which they are not, and probably never can be.

England is placed in the position of a buffer between two opposite tendencies of the labour market, having to encounter the considerably higher wages paid in the United States, on the one hand, and the much less highly-remunerated labour of Continental Europe on the other. So far as present appearances go, although the fact has perhaps the appearance of paradox, she has more to fear from the highly-paid labour of New England than from the cheaper labour of Belgium and Switzerland.

Selecting our data in all cases from official returns, we have compiled the following returns of the average weekly wages paid in four of the leading cotton-producing countries of the world in 1880:—

| | England. | United States (Lowell). | France. | Belgium. |
|---|---|---|---|---|
| | *s.* *d.* | *s.* *d.* | *s.* *d.* | *s.* *d.* |
| Men . . . . | 22 6 | 39 6 | 17 0 | 15 6 |
| Women . . . | 14 0 | 24 9 | 10 6 | 9 6 |
| Children . . . | 7 6 | 14 1 | 5 6 | 4 9 |

These figures may, in a general way, be taken to represent the differences that distinguish each country from all the others in respect of the average rates of wages paid. There are other differences, of perhaps even greater importance, which receive due consideration in their several places, such as the hours of labour, the proportions of young women and children to adult male labour, and the degrees of skill or efficiency appertaining to each.

There is, however, one characteristic of the wages question that is entitled to some consideration before proceeding further. It is this, that the tendency of rates in different countries has recently been more and more towards equalisation. In America, the average rate of wages paid in the cotton trade increased between 1860

and 1870 from £39 to £58 per operative employed,[1] or about 50 per cent. This was a much greater increase than occurred in the same interval in any other country. It was not to be expected that it could be maintained. We find, therefore, that between 1870 and 1880, not only was there no increase in the average rate, but that rate was actually reduced from £58 to £49 per operative, being a reduction of 18 per cent. No such movement is apparent in the wages of other countries. In England during the same interval the average rate of a cotton spinner's earnings rose by 30 per cent., according to Mr. Lord's returns. In France (Nord) the wages of cotton spinners increased between 1870 and 1880 from 4s. 4d. to 4s. 10d.; of piecers, from 1s. 4d. to 2s.; and of factory hands from 1s. 6d. to 1s. 10d. In Belgium, during the same interval, the average increase was equally as considerable, and in Germany it was the same in character if not in amount. The reduction that appears to have been confined to the United States has therefore tended towards the establishment of an equilibrium that the civil war did much to disturb. The following return shows the incidence of this reduction in groups of States:—

| States. | Average Annual Wages Paid per Operative Employed in | | |
|---|---|---|---|
| | 1860. | 1870. | 1880. |
| New England . . . | £41 | £61 | £51 |
| Middle . . . . | 38 | 55 | 47 |
| Southern . . . . | 29 | 38 | 34 |
| Western . . . . | 39 | 52 | 43 |
| **United States . . .** | **39** | **58** | **49** |

[1] These figures are converted, at 4s. 2d. to the dollar, from the official census reports of the total wages paid in the cotton industry in the census years. They apply, of course, to the country as a whole, and though subject to several modifications, are sufficiently reliable as showing the tendencies referred to.

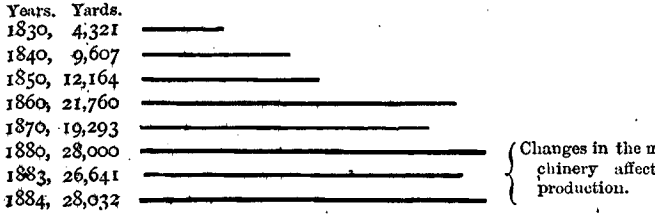
With a view to throwing further light on the foregoing figures, it may be well to explain that 125,000 of the 172,000 cotton operatives employed in 1880, or about 70 per cent. of the whole, were in the Eastern States, and received the highest rate of earnings shown above.

The question of wages might be carried very much farther, but perhaps this is not required for the purpose in view, which is mainly that of enabling a judgment to be formed relative to the comparative conditions, as regards the wages cost of labour, under which this great industry is carried on.

There is probably no industry of modern times that supplies the same striking example of the economic phenomena induced by the application of improved machinery and subdivision of labour, as the cotton trade. Of the condition of things prior to the invention of the power-loom and the self-acting mule it is not necessary to speak. In those days it took scores of hands to do the work that one can accomplish at the present time. But within much more recent times the economies effected have been remarkable. Mr. Edward Atkinson has shown[1] that in the New England States the cost of labour per yard of cotton manufactured in 1830, was about 8s.; in 1840, it was about 7s.; and in 1860, it had fallen to less than 4s. This latter was the lowest cost that has been attained in the United States, the improvements in production introduced since the war having been countervailed by the great increase of wages that followed upon that event. But notwithstanding the much greater cost of labour—which in 1880 was quite double that of 1830—the wages paid per yard of manufactured cotton in the former year was less than one-half that of the latter. The greater efficiency of labour in the interval is shown by the following:—

[1] "The Metaphysics and Mechanism of Exchange."

*Number of Yards Produced per Operative per Year, in New England.*




These returns are compiled from the books of a leading firm in Massachusetts, and apply to precisely the same description of manufacture over the whole period, which may be regarded as perhaps their most valuable characteristic, as the conditions of the comparison are thus strictly relevant and parallel. They show, in brief, that the efficiency of the workers has within fifty years been increased about 6½ times. This increase of efficiency has proceeded *pari passu* with a decrease of less than one-half in the cost of production after every allowance has been made for increased wages, &c.

The comparative facilities and advantages which each of the two countries possesses for the successful prosecution of the cotton manufacture is reflected in the export returns of the United Kingdom and the United States respectively. In spite of increasing keenness of competition, England has steadily increased from year to year her exports of cotton manufactures. In 1870 the value of our exports of such manufactures was 56¾ millions sterling; in 1880, it was 63¾ millions. This difference, however, represents a much greater increase of bulk or volume of business than would be assumed without looking closely into the figures, there having been in the interval an increase of 22 million lbs. in the quantity of cotton yarn exported, and an increase of over 1200 million yards of piece goods. How do these figures compare with those that describe the growth of the United States' cotton industry? The average annual value of the exports of cotton manufactures from the

United States for the five years ending 1884, was 2½ million pounds sterling, being only 5 to 6 per cent. of the total value of the American cotton manufacture during that period. The average annual value of the imports of manufactured cotton into the United States for the same term was 6½ millions sterling, or nearly 17 per cent. of the total value of the cotton manufactured in the country. These figures simply mean that while England is supplying all the world with cotton, America has not yet reached the point of fully supplying her own requirements.

One of the causes of the failure of the American cotton trade to secure a large export of cotton manufactures is the large profits required by manufacturers. In the cotton trade, as in most other staple industries, it seems as if the day of big profits had gone by—at any rate, the tendency of prices within recent years has been in the direction of a continuous decrease, and that, too, upon an already greatly attenuated margin of profit. Between 1873 and 1883, the average value of cotton piece goods exported from the United Kingdom diminished to the extent of .89d. per yard, or 23 per cent., concurrently with the maintenance of the wages of spinners and weavers at the level of the earlier period. Within a much more limited time—betwen 1880 and 1884—the average buying price of middling Orleans cotton fell from 7.06d. to 6.30d. per yard, or about 10.7 per cent.; the average selling price of yarn (32s. twist) from 10d. to 8.63d. per lb., or 13.70 per cent.; and the average selling price of calico (8¼ lb. shirtings) from 7s. 5¾d. to 6s. 6d., or 13.09 per cent. There has, therefore, been a clearly diminished profit to the producer, in the case of yarn, to the extent of 3 per cent., and in the case of calico, to a little under that figure. This diminished profit has not been met by a countervailing economy of production, although progress is continually being made in the direction of increased

cheapness of production. Within a comparatively recent period the average rate of working of spinning spindles has been increased from 4000 to 8000 revolutions per minute. Improvements in the steam-engine have enabled an equal production to be obtained with one-half the consumption of fuel necessary some years ago; and it is no uncommon thing, in the most modern mills, to see two girls and a man attending to a couple of mules that unitedly embrace a couple of thousand spindles.[1]

To our cotton industry, one chief danger that lies in the future would appear to be that of the competition of India and China. These are the two greatest markets in the world for cotton goods, and while both can raise the raw material as cheaply as it is raised anywhere in the world, they can also bring cheap, if not very efficient, labour to bear on its manufacture. It is stated that the cost of producing 1 lb. of No. 20's yarn in Bombay, including coal, ranges from 2⅝d. to 3d. per lb., according to the newness and size of the mill. In Manchester the cost of production is about the same. So far, therefore, the conditions are equal. But the Manchester mill has to pay, in the form of interest and other items, about 1¼d. per lb. for bringing the cotton from Bombay, and about 2d. per lb. more to get the yarn back to Bombay, which means a clear saving of 3¼d. per lb. in favour of India.[2]

Very great progress has been made within the last few years in the way of developing the cotton industry of India. In 1884, there were 81 mills or factories at work, employing 62,836 hands, and having a total capital of 5¾ millions sterling. In 1878 there were 42 mills in the Bombay Presidency alone, having a total of 1,095,000 spindles, and employing 10,131 looms. In 1884 these figures had increased to 61 mills, 1,540,000 spindles,

[1] In the new mills of the Glasgow Spinning Company, which the author had the pleasure of inspecting very recently, there are over 1000 spindles to each mule, and only two girls and a man are required per pair of mules.

[2] "The Indian Problem Solved."

and 14,299 looms, employing altogether 45,504 hands, and having a capital of £4,543,000. The quantity of cotton consumed in the cotton mills of Bombay in 1884 was 1,454,000 bales. India, however, although possessing the cheapest and most abundant labour in the world, is hampered by the want of capital, and by the disinclination of Englishmen to embark their means in a country where the security of our tenure of power is every now and again shown to be precarious and uncertain. If English capitalists could only enjoy the same sense of security in Bombay as they do in Bolton, it is possible that Indian competition would soon put a different complexion upon the position and prospects of this industry.

It appears not a little curious that, although cotton is largely grown in China, and skilled labour may be bought there for 4d. per day, with food, that industry has hitherto failed to make any real progress in the country. The Shanghai cotton mill is stated to have been at a standstill for upwards of two years, partly from want of requisite capital, partly from incapacity of management. The Chinese, therefore, who export large quantities of the raw material, are compelled to import the great bulk of the manufactured cotton they use, the imports into the port of Shanghai alone reaching nearly 12 million pieces a year.

It is difficult to obtain much information of a really reliable character as to Russian textile industries. One of the most complete and reliable glimpses into the penetralia of this subject is that afforded in Gallenga's "Summer Tour," which describes the large cotton manufactory at Krähnholm, founded in 1856 by a Bremen merchant, and having a capital of over a million sterling. This establishment consumes 40,000 bales, or 7562 tons of cotton yearly—being about a hundredth part of the consumption of the United Kingdom[1]—and produced

[1] The imports of raw cotton into the United Kingdom in 1883 amounted to 774,250 tons.

in 1880 6518 tons of yarn, and 1998 tons of various tissues.[1] The total number of hands employed is 4827, so that about 2830 lbs. of cotton were consumed per operative employed. The average monthly wages are 14 paper roubles for a spinner, and 16 for a weaver, but good hands earn considerably more. The hours of labour are thirteen per day, commencing at five A.M. and closing at 8 P.M., with two hours' interval for meals. Children under twelve are not employed. The profits are said to be 50 per cent. on the capital invested!

A comparison of great value, designed to show the extraordinary differences that may, and often do obtain, as between one district that is possessed of highly skilled and efficient labour, the most improved machinery and processes, and other conditions favourable to economical production, and another district that has not yet attained these desiderata, is quoted by Mr. Atkinson.[2] In New England, where labour is highly organised, five persons produce in a year 140.0 yards of calico; in North Carolina, where the opposite condition of things exists, the same number of operatives only produce 2.4 yards. Hence in New England the cost of cotton per yard, allowing an average of 287 dollars to each operative, would only be 1·08 cents., whereas in North Carolina, assuming the same rate of wages, the average cost per yard would not be less than 58.49 cents. These cases are no doubt somewhat extreme; but even so, they illustrate, with remarkable emphasis, the differences which enable one district or country to take a leading position, while another is unable to struggle to a third-rate or fourth-rate place.

There is nothing in the history of the cotton trade that is more interesting than the decrement of the cost of

[1] It appears as if Mr. Gallenga had made some error here. The manufacture from raw cotton could not well be 954 tons in excess of the raw material consumed.

[2] "Metaphysics and Mechanism of Exchange."

cotton and of cotton twist during the first part of the present century, consequent upon the greater and more ready supplies of the former as well as the improved facilities for providing the latter. Between 1802 and 1818 the cost of raw cotton averaged a trifle over 22d. per lb. Between 1826 and 1832 the corresponding average was only 6·8d. per lb. In the interval there had been a decrease of not less than 15·2d. per lb., or nearly 70 per cent. But a still more remarkable decrement is found in the case of cotton twist, the average price of which between 1805 and 1808 was about 33d·8 per lb. as against only 18d·6 for the later period quoted—the difference thus amounting to 20·2d. per lb. In 1805 the difference between the cost of the raw cotton and that of the cotton twist was as much as 20·2d. per lb.; in 1821 it had fallen to about 10d., and in 1831 it was between 5d. and 6d. per lb. In 1884 the average declared value of the imports of raw cotton was 2·85d. and of the exports of yarn 12·24d. per lb.

## CHAPTER XIII.

### *THE WOOLLEN INDUSTRY.*

NEXT to the cotton industry, that of wool and worsted is the most important of all our textiles. It also takes rank as the fourth most important industry in the country, excluding agriculture, being entitled to follow directly after our great iron industry in reference to the number of operatives to whom it directly affords employment, if it is not quite able to challenge that manufacture in regard to this test of importance.

The course of our woollen industry has been a singularly eventful and chequered one. No industry is more indigenous, nor of any other is it possible to trace the records farther back. Since England has had a history, woollens of one kind or another have been produced within her borders. Compared with the woollen trade, that of cotton, or silk, or even iron, may be regarded as parvenu, and a thing of yesterday. It is, perhaps, not too much to say that it was in woollens that England started upon her long and successful career of manufacturing enterprise. She had certainly done much both in the way of producing and exporting woollen fabrics before she had spun an ounce of cotton, or exported a ton of iron.

The lead that was thus secured to our country in the woollen manufacture has always since been maintained. England is to-day the greatest wool-manufacturing country in the world. But she is very far from being the greatest wool-growing nation. Her pre-eminence in

this respect has long since been lost, and is being increasingly usurped by other, and especially newer, centres of population. This fact is not of itself one that need cause much alarm. The enormous lead that England has so long kept in the cotton trade is a certain proof that indigenous supplies of raw material are by no means essential to manufacturing supremacy. But there is this very important distinction to be observed between cotton and wool, that every nation is more or less provided with indigenous supplies of the latter, whereas every European nation shares with England the disadvantage of being dependent upon other countries for supplies of the former. In other words, there is practically no European nation that is not possessed of the means of carrying on an extensive woollen industry independently of every other. But, at the same time, it is to be noted that every other European country, except perhaps Russia, is also like England in this respect, that they can only carry on a woollen industry beyond certain limits by resorting to foreign supplies of raw material.

As this does not profess to be an historical sketch of the woollen industry, we shall not attempt to trace the progress of the trade through the multitude of improvements by which its recent are distinguished from its earlier records. For all practical purposes, it is only necessary to examine its later developments, especially in relation to the competition offered by other countries. Whatever advantages England may have possessed in reference to processes or methods at an earlier stage of her woollen industry, it is to be apprehended that these have long since ceased to be. The inevitable tendency of our modern manufacturing system is to reduce all the leading countries of the world to an almost uniform level of knowledge in reference to processes and appliances, or, at any rate, of the means of acquiring such knowledge. In the light of this fact, we have now to consider what special natural or acquired advantages each

of the principal manufacturing countries possesses for prosecuting the woollen industry under the existing condition of things.

There has been a decrease of about 20,000 in the number of persons employed in our woollen and worsted industry between 1871 and 1881, which would, on the first blush, lead to the inference that that manufacture is on the decline. The matter appears to look all the more serious when it is found that we actually employed 5558 fewer operatives in 1881 than we did twenty years before. But the idea of decline would be entirely disproved by an analysis of the returns of our imports of raw and exports of manufactured materials. The truth is, that between 1861 and 1881 our imports of wool increased to the extent of over 200 per cent. That this increase of imported raw material should have occurred coincidently with a considerable decline in the number of hands employed in our woollen manufactures must, after every allowance has been made for possible margin of error in either set of figures, be held to establish the great economy of labour that has taken place. The extent of this economy will be more readily appreciated from the following statement :—

*Imports of Wool into the United Kingdom.*

| Years. | Imports of Wool. | Number of Hands Employed. | Lbs. of Wool Imported per Employé. |
|---|---|---|---|
| | Lbs. | | |
| 1861. | 147,172,000 | 238,814 | 616 |
| 1871. | 323,036,000 | 253,490 | 1,274 |
| 1881. | 451,141,000 | 233,256 | 1,934 |

These figures are fully borne out by those relating to our exports, which show that between 1861 and 1881 the quantity of woollens sent out of the country rose from 54 to 277 million pounds.

It is not pretended that the above figures furnish a true test of the progress that has been made in the woollen industry during the twenty years in question. That progress must be measured by many other considerations, besides that of the quantity of wool imported. It is necessarily affected by the quantity of home-grown wool at each of the two periods, by the character of the fabrics into which the raw material has been manufactured, by the fineness or otherwise of the wool itself, and by other more or less varying and disturbing elements. But however much these elements may minimise the nett result when each has had its full weight assigned to it, there must still remain the indubitable fact of an enormous increase of productiveness both in relation to the *employés* and to the machinery employed, tending either to the cheapening of the manufactured article or to the increased remuneration of the labour employed in its production, or to both together. It is therefore to be observed that if there has been a substantial decrease in the numbers of operatives employed in our woollen trade, that decrease has been coincident with, not a corresponding decrease of production, but an enormous increase.

It would throw some further and useful light on this subject if we could state whether and how far the quantity of wool grown at home has increased during the interval under consideration. Has this increase of over 200 per cent. in our imports been concurrent with any material difference in the production of British-grown wool? There is a very general impression that the last twenty years have witnessed a considerable increase in the numbers of our flocks and herds—that large sheep farms have largely taken the place of small arable holdings, and that the cultivation of beef and mutton has superseded that of cereals. There are, however, no concrete facts to support this impression, and it is proved unmistakeably by the agricultural returns issued by the

Board of Trade,[1] that the total quantity of sheep in the country has declined within recent years. Mr. Mulhall estimates the decrease as equalling 10 million lbs. of wool between 1870 and 1880.[2] This is a decrease of about 6 per cent. on the decennium, which is not, after all, a great one, and might not justify any real anxiety, were it not that in the same interval the production of wool in some other countries has more or less largely increased, as the following figures from the same authority suffice to show:—

*Production of Wool in Different Countries*, 1870–1879.

| Country. | Million lbs. | | Ratio of World's Total. | |
|---|---|---|---|---|
| | 1870. | 1879. | 1870. | 1879. |
| Australia . . . | 193 | 392 | 13.43 | 22.14 |
| River Plate . . | 198 | 240 | 13.78 | 13.56 |
| South Africa . . | 41 | 46 | 2.84 | 2.70 |
| United States . . | 165 | 208 | 11.46 | 11.74 |
| Great Britain . . | 170 | 160 | 11.80 | 9.03 |
| The Continent . . | 640 | 670 | 44.55 | 37.83 |
| India, &c. . . . | 30 | 51 | 2.14 | 3.00 |
| Total . . | 1437 | 1767 | 100.00 | 100.00 |

We are now brought face to face with the question of Great Britain's relative progress in the manufacture of woollen goods. Many cases might be cited in which England has diminished her indigenous supplies of raw materials concurrently with a large increase in the production of the manufactured articles in which these raw materials were employed. That England has largely developed her woollen industry within the last quarter of a century has already been shown by the enormous increase of imported raw wool, and of the exports of manufactured goods produced therefrom. But if we find

[1] The total number of sheep in the United Kingdom was 30,313,000 in 1874, and 26,068,000 in 1884.

[2] "The Balance Sheet of the World," p. 19.

that other countries have been making even greater progress than our own, this increase of imports and exports will not be altogether so reassuring as we could desire it to be.

The United States, as the most important industrial nation after England herself, claims a prominent place in our consideration. In that country, the number of hands employed in the woollen industries has, between 1840 and 1880, advanced from 21,342 to 161,557; the total capital embarked in the trade has risen from about 16 millions to 32 millions of pounds, and the total value of the products has advanced from 20½ to 53½ million pounds sterling.

This great increase, however, has taken place, not in consequence of any demand from outside markets for United States products, but solely for the purpose of meeting home requirements. The population of the United States in 1840 was 17 millions. In 1880 it was 50 millions. The products of the home-woollen industry were therefore approximately of the same value per head of the population in both years. In the former year, however, the people of the United States took a much larger proportion of the textiles which they consumed from England than in the latter year. Even yet, however, the United States import manufactured woollens to the value of between 30 and 40 millions of dollars a year, while their exports of woollen goods are officially valued at very little more than a quarter of a million of dollars.[1] Stated in another way, the imports of raw and manufactured wool in 1881, were 6.36 per

[1] In 1881 the imports into the United States and the exports therefrom of wool and manufactures thereof were as under:—

| | Imports. dols. | Exports. dols. |
|---|---|---|
| Raw wool . . . . . | 9,703,368 | 19,217 |
| Manufactures of . . . . | 31,156,426 | 331,083 |
| Total . . . . . | 40,860,394 | 350,300 |

cent. of the total imports of that year, while the exports of raw and manufactured wool only formed 0.04 per cent. of the total exports.

It is quite clear, then, that up to the present time, at any rate, the United States cannot be said to have entered into the general competition for neutral markets; and, indeed, the home market is only retained by the imposition of duties that are almost prohibitory, as against English stuffs. But what of the future? Can America, with her enormous increase of flocks and herds, and her untiring energy, expect to rival English woollen goods, as she has already done so many of our other manufactures?

There is a two-fold problem involved in this consideration. The first is that of how far the wages paid in the woollen industries of America will allow of equal economy in production; the second, that of the rate of interest at which it will pay American capitalists to produce woollen manufactures for foreign consumption. Up to the present time the conditions otherwise remain much the same as between the two countries, because, although America now grows about two-twentieths more raw wool than Great Britain, that difference may fairly be regarded as no more than a set-off against her larger population.

One of the first points to be considered in relation to economy of labour is that of the proportions of women and children employed relatively to adult male labour. The former is invariably paid for at a considerably lower rate than the latter, for the ordinary processes involved in the textile trades may be equally efficient.

In the United States the proportion of men, women, and children respectively employed in the leading branches of the woollen industry in 1880 were as follows:[1]—

[1] "Report of Tenth Census," vol. ii. p. 34.

*Numbers Employed in the American Woollen Industry.*

| Trade. | Total Employés. | Percentage of | | |
|---|---|---|---|---|
| | | Males over 16. | Females over 15. | Children. |
| Woollen goods . . . | 86,504 | 54.31 | 33.95 | 11.74 |
| Worsted do. . . . | 18,803 | 34.22 | 50.38 | 15.40 |
| Carpet-weaving . . . | 20,371 | 49.60 | 42.07 | 8.33 |
| Hosiery, &c. . . . . | 28,885 | 26.02 | 61.30 | 12.68 |

In Great Britain, the returns of the ages of factory *employés* are not made up in the same way as in the United States, so that a strictly parallel comparison is difficult. But the differences that exist in regard to the employment of women and children as between the two countries do not appear to be very material. An analysis of a recent Factory Report shows that in our woollen and worsted trades, as a whole, the number of females employed was 54 per cent. of the total, and of children under thirteen years 15 per cent. The principal element of difference would thus appear to lie in the larger employment of women in English factories, but American factories generally employ a larger number of very young children. Taking the one with the other, it is hardly probable that either country will, in this respect, show conspicuous superiority in economy of results.

It is, however, quite otherwise when we come to deal with the matter of absolute wages payments. Great Britain unmistakably enjoys the advantage of cheaper labour, varying in degree according to the locality, so that the exact extent of the difference is difficult to calculate.

An examination recently made by the Massachusetts Bureau of Labour Statistics into the comparative cost of labour in that State and in England gives the following

average wages paid in each of the two countries in the woollen and worsted industries respectively:—

| | Great Britain. | | United States. | | Amount of difference. | |
|---|---|---|---|---|---|---|
| *In the Woollen Industry*— | *s.* | *d.* | *s.* | *d.* | *s.* | *d.* |
| Average weekly wages paid to men | 32 | 0 | 32 | 2 | 0 | 2 |
| " " " " women | 13 | 0 | 27 | 2 | 14 | 2 |
| " " " " young persons | 8 | 4 | 20 | 8 | 12 | 4 |
| " " " " children | ... | | 16 | 0 | ... | |
| *In the Worsted Industry*— | | | | | | |
| Average weekly wages paid to men | 25 | 0 | 35 | 0 | 10 | 0 |
| " " " " women | 14 | 6 | 25 | 1 | 10 | 7 |
| " " " " young persons | 12 | 0 | 16 | 6 | 4 | 6 |
| " " " " children | 3 | 4 | 12 | 7 | 9 | 3 |

With reference to these figures, as to all other statements of earnings in the textile trades, it is necessary to bear in mind that the labour employed is mainly that of women and young persons, in whose wages the greatest variations are found. It will be noted that American children are shown to be in receipt of nearly four times as much wages as English juvenile workers, and that the wages of women are generally about as much again on the other side of the Atlantic. On the other hand, however, the factory operatives of the United States are accustomed to work longer hours than those of England. The extent of this difference may be put at not less than 10 per cent., which, obviously, is far from meeting the difference in respect of wages.

The figures already quoted by way of illustrating the differences in wages might be confirmed by many others that are available. But it is not necessary to pile up columns of figures in proof of a fact that is so generally known and so readily admitted. The only point that admits of dispute is that of how far the American manufacturer is handicapped by his dearer labour. If we were to assume, as we fairly might, that the difference

against him on this head approximates 10s. for every pound sterling expended in wages, we should arrive at the amount to be placed at his debit by a very simple and easy process. The American Census Reports show that during the census year 1880, the total amount expended in wages in the woollen and worsted industries of that country was about 9½ million pounds; and if it is a sufficiently near rough-and-ready calculation that 10s. in England will go as far as 20s. in America in the way of purchasing factory labour, it would seem to follow that on the total production of these industries in the census year 1880, America was at a disadvantage to the extent of over 4½ million pounds as compared with our own country.[1] This is quite sufficient to render it unlikely that America will readily equal England in neutral markets. At the same time, it should not be forgotten that in textile industries wages do not represent by any means so large a proportion of the whole value of the product as in some others; and in the woollen industry in particular, the value of the raw materials used in the United States has been ascertained to be three and a-half times the amount of the wages paid for their conversion into manufactured goods. In other words, while the value of the woollen manufactures of the United States amounted in 1880 to 53½ millions sterling, about 33 millions of that amount was represented by raw materials, and only 9½ millions by wages cost.

We now come to consider the second point involved in a comparison of our woollen industries with those of the United States—namely, the influence which is likely to be exercised by the general range of profits in textile

[1] A pamphlet recently published by Mr. E. A. Hartshorn, of Troy, New York, gives the ascertained wages paid in two woollen factories situated in New York and Aberdeen (N.B.) respectively in 1883, from which it appears that on an average of the whole American wages were 103 per cent. higher than English.

manufactures. In Europe the recent tendency of events has been towards reduced profits on a given production, but a much higher degree of productiveness per factory and per operative. In the United States, however, profits until recently took an exceptionally high range. In the last census year the profits in this branch of industry appears to have varied from 28 per cent. in carpets to 47 per cent. in hosiery, and 51 per cent. in wool hats, &c., excluding, of course, depreciation, bad debts, &c., for which an allowance of from 10 to 15 per cent should be made. On an average of the whole trade, the profit, subject to the deductions referred to, made comes out as 35 per cent., which, it is scarcely necessary to say, is much more than would be likely to suffice for the satisfaction of the most sordid Englishman,[1] even if one half of it were allowed in satisfaction of the unascertainable items of debit referred to.

Since the foregoing was written, a statement has appeared in "Bradstreet's," showing the rates of dividends paid over a series of years by thirty-six of the principal cotton and wool manufacturing companies of New England. On analysing the returns in question, we find that the average rate of dividend paid over the whole, for the twelve years ending 1884, was 7.3 per cent. This average includes a number of companies which do not appear

[1] The figures here quoted are thus given in detail in the Census Report for 1880 :—

| Description. | Total Capital. | Total Wages. | Total Value of Raw Material. | Total Value of Products. | Percentage of Profit on Invested Capital. |
|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ |
| Woollen Goods | 19,219,113 | 5,167,278 | 20,169,122 | 32,121,344 | 35 |
| Worsted do. | 4,074,809 | 1,136,605 | 4,402,726 | 6,709,988 | 28 |
| Felt do. | 391,651 | 87,952 | 506,142 | 723,930 | 33 |
| Wool hats | 723,166 | 378,643 | 957,155 | 1,703,314 | 51 |
| Carpets | 4,293,717 | 1,367,044 | 3,796,975 | 6,358,560 | 28 |
| Hosiery & Knit Goods | 3,115,918 | 1,340,295 | 3,042,190 | 5,833,445 | 47 |
| Total U. States | 31,818,374 | 9,477,817 | 32,874,310 | 53,450,581 | 35 |

to have paid a dividend for several years. It also includes the abnormally depressed years 1883–84. Even in the last-named year, however, twenty-one of the companies paid between 5 and 15 per cent., and five of them upwards of 10 per cent. In more remote regions it is probable that dividends will take a higher range. New England is the Manchester of our own country; and although the textile manufactures are there carried on with an efficiency not attained elsewhere on the American continent, the competition is much keener than in the west or south, where local markets pay higher rates. When we add that, in the opinion of several textile manufacturers, the English woollen trade has not for years paid more than an average of 3 per cent., it is clear that America both looks for and obtains a higher rate of profit, which, however, has in the last few years—since 1881—been steadily tending downwards, in spite of the fact that imports of woollen goods are taxed at a rate which adds over 50 per cent. to their cost. It is a curious problem, and one of some importance to our own country, how far this tendency towards reduced profits is likely to go. It may fairly be assumed that if the average rate of dividend in any particular industry falls below 5 per cent., that industry will be given up in a country like the United States, where there are so many more profitable outlets for capital. It does not, however, necessarily follow that English trade would be thereby improved. It is much more probable that production would be so regulated as to allow of *average* profits being again restored to the manufacturers of the United States, and any advantage that England could hope to obtain while this process was going on would only be temporary.

It would be interesting to be able to compare the capital embarked in the woollen industries of the United States and Great Britain relatively to the results obtained. This, however, can only be stated in a very inferential

and approximate manner. The United States Census Reports show that in the woollen industry £232 of capital are sunk for every person employed. In the worsted trade the capital per *employé* is £220. There are no definite statistics of the same kind for Great Britain, but if we adopt the same average of capital to *employés*, it would follow that the amount of money embarked in the corresponding industries of the United Kingdom is approximately—

| | |
|---|---|
| Woollen trade . . . . . | £31,374,000 |
| Worsted do. . . . . | 31,240,000 |
| Total . . . . . | £62,614,000 |

In France the woollen and worsted industry appears to have made almost as much progress as in the United Kingdom during the last thirty years. An official report[1] on the French woollen industry states that between 1851 and 1878 the total number of spindles for combed wool had increased from 850,000 to 2,470,000—including Alsace in both years, so as to make a just comparison. In the United Kingdom, the number of spindles in worsted factories increased, in the same interval, from 875,830 to 2,581,000 spindles. There was, therefore, a very slight advantage in favour of England. The development of the French woollen trade is explained by the introduction of mechanical improvements which have, since 1867, caused the cost of wool-combing to decrease by 25 per cent., and the cost of spinning by somewhat more than one-half, concurrently with an increase of about 40 per cent. in the wages of the operatives employed. There is not now such a difference in wages between France and England as is commonly supposed. Their nominal amount is larger in England, but as it often happens that men are employed in France to do work that would be done in England by women and boys, the nett result is

[1] Report by M. Koechlin Schwarz, Juror of Paris International Exhibition of 1878.

not greatly different, and when it is remembered that the hours worked in France are about 30 per cent. longer, the difference becomes narrowed down to one of relative efficiency. Upon this subject we have, in a general way, spoken elsewhere; but it may be remarked here that the results brought out by dividing the total number of operatives employed in the woollen trade into the numbers both of spindles and looms, show that the French woollen operatives are superior to those of both England and the United States. At the present time France has half as many woollen spindles as Great Britain, and rather more than half the number of looms of all kinds. She is, however, like England in her dependence upon foreign supplies of raw material, having in 1883 imported 161,000 tons of wool, of the value of 13½ millions sterling, while her exports only amounted, in the same year, to about 1½ million pounds' worth of raw and 2½ million pounds' worth of manufactured wool.

Germany and Belgium both possess the advantage of cheap and fairly efficient labour, and both have made very material progress in the development of their woollen industries within recent years. In the former country, Elberfeld, Barmen, Mulhouse, and Chemnitz (Saxony), are largely supported by the woollen industry. Between these centres of industry, and our own more populous towns of Bradford and Leeds, there is a strong rivalry, which is every year becoming more and more keen. There is, at the same time, a great deal of friendly and not a little curious reciprocity. The chief proportion of the lustre and demilustre yarns manufactured in Saxony are spun in Bradford. At Chemnitz, the manufacturers "buy worsted yarns and warps from Bradford, and cotton yarns from Manchester; they pay carriage and an import duty on these yarns entering Germany; weave them into fancy goods, finish, make them up, and pay carriage back to London, Bradford, and Manchester, selling them in the

very centres of competition."[1] Again, "the export from Verviers to Scotland of woollen yarns, carded and spun by machinery made in England from South American wool, formerly purchased in London and Liverpool," is referred to as an example of a special trade built up by careful attention to details, and maintained by the cheaper labour of the Belgian factories.[2] It seems to be a fact that in Germany and Belgium a great deal of the progress made in the textile industries has been due to the superior facilities possessed by the working population for becoming acquainted with the technical details of their craft; but this is a need that is now being more generally met in our own country, where weaving schools have been established in Glasgow and other towns.

In an economic point of view, there are several important differences as between English and Continental textile manufactures. On the Continent the hours of labour are from 10 to 20 per cent. longer than in England, while English wages range from 25 to 50 per cent., and in some cases even more, above those paid in Germany and Belgium. On the other hand, it generally costs Continental manufacturers considerably more to equip their factories. In a case quoted by the Royal Commission on Technical Instruction—that of Messrs. Parmentier & Co., of Ghent,—which may be regarded as typical, "the whole of the machinery, consisting of 150,000 spindles, and 1200 looms, had been imported from England," so that, "with duty, cost of transit, and extra cost of 'setting up' added to the English price, the firm paid fully 25 per cent. more for it than they would have had to pay in Lancashire." There is also the consideration, referred to somewhat fully in a succeeding section of this work, of the undoubtedly greater efficiency of English labour, which does more than probably any

[1] "Report of Royal Commission on Technical Instruction," vol. i. p. 321.

[2] Ibid. p. 506.

other one fact to keep English industry in the foreground. It is very doubtful whether it is any real gain to such countries as Belgium that they have no Factory Acts, that half-timers are unknown, and that there is neither limit to the age at which children can be admitted to factory labour, nor as to the hours that they may work. It is, however, claimed that in many cases Continental workmen, if not possessed of the same energy and capacity for turning out a given quantity of work in a given time, have attained pre-eminence in reference to the superiority of their productions; and indeed the President of the Verviers Chamber of Commerce informed the Royal Commission on Technical Education that it was on this quality that they mainly depended. It will probably strike some as rather a new revelation that inferiority should be attributed to English as against Belgian goods; but there appears to be little doubt that on some points Continental manufacturers have made more headway than their English rivals, and it is at least worth the while of the latter to consider how it happens that fully 65 per cent. of all the yarn spun in Verviers from imported wool is sent to Great Britain.[1] It is often found that the danger which a manufacture in any given country has chiefly to fear is, that of its taking root in another country possessed of better resources in raw materials. England is under no such risk, so far as European countries are concerned. Great Britain now owns a considerably larger number of sheep, and therefore presumably has a larger command of home-grown wool, than any country in Europe, except Russia. But in very nearly all European countries there has within the last ten or fifteen years been such a serious depletion of flocks as to suggest the fear that in the not far-distant future we may fail to secure sufficient supplies of wool for our requirements. Within ten years

[1] The value of the yarn so exported to this country is estimated at not less than a million sterling per annum.

the sheep supply of Germany has fallen from 28 to 25 millions; of France, from 30 to 23 millions; of Hungary, from 15 to 9¼ millions; of Austria, from 5 to 3¾ millions; while even in Norway and Sweden the stock has fallen away to the extent of nearly 200,000. The consequence of this general tendency has been that of compelling these European countries to resort more largely than ever to newer countries for their wool supplies. But even in newer countries, excepting Australia and the River Plate, there has been no such increase of flocks and herds as would suffice to repair the deficiencies of the older States. In America the stock of sheep and lambs has increased during the last ten years by about fifteen millions; but during the same interval the population has increased by a more than corresponding extent, so that the United States are scarcely even keeping pace with their own requirements. It is the same as regards Canada, where there are scarcely sufficient sheep to furnish the clothing required for home use. If it happens, therefore, as it well may, that our woollen industry is arrested in its career, such a catastrophe is more likely to come from this than from any other quarter. The increased supplies of wool, like the increased supplies of mutton, are not keeping pace with the increased wants of mankind.

## CHAPTER XIV.

### *SILK AND JUTE, ETC., MANUFACTURES.*

SILK.—Among the great industries of the world there is none that has shown so much fluctuation and has been exposed to such great vicissitudes of supply and demand as that of silk. The great centres of this industry have been shifted from one country to another, and from one district to another, more frequently and more rapidly than any other of the textiles. At one time it has flourished in France, at another in England, at a third in Germany, and at a fourth in Switzerland. In all of these countries it now seems to be in a backward condition, while in the United States, which do not seem to offer any special facilities for its prosecution, it has of late years made really remarkable progress. On the Continent of Europe, Lyons is, and perhaps will long continue to be, associated specially with the silk trade, but that city does not by any means continue to be so pre-eminently identified with it as in former days; while in our own former centre of Spitalfields, and, to a less extent, in that of Macclesfield, the trade is in a rapidly decaying condition. These facts are correlated to industrial problems that are worthy of investigation.

Until after the year 1660 the silk manufacture was hardly known in England. Some time subsequently to that date, the wearing of Indian silks was discouraged by the Crown and Parliament, and this, coupled with the interruption caused by political events in the trade with France, led to the industry obtaining a footing in the

country. About 1713 the supplies of raw silk were mainly obtained from Turkey and the East Indies, and "thrown" silk to the value of about £240,000 a year was imported from Italy. The total imports of silk of all kinds at this time was valued at £565,000. But even then our silk industry was exposed to great competition from France, where, "in the provinces of Languedoc, Provence, and Vivares, such vast quantities of raw and thrown silks are made that they want but little from abroad, and even that little is imported into France at upwards of 3s. a pound less in custom and charge than the like silk can be imported from Italy into Great Britain, which, together with the cheapness of their labour, renders their wrought silk so much cheaper than ours."[1]

In 1712, there was a proposal to allow French silks to be introduced into England free of duty. This intention was strongly opposed on behalf of the silk industry of this country, it being argued that such a step would result in the loss of our silk manufacture, in the consequent starvation of those engaged in it, in the languishing of our navigation with Italy and Turkey, and in many other evils. At this time the silk industry appears to have secured a good hold in London, especially in the parish of St. Giles, Cripplegate, where over 6000 souls were found to be dependent upon it. This was, of course, long before the introduction of the Jacquard loom, and while hand-looms were the only ones in vogue, so that the employment of even 6000 operatives would not by any means represent a large production as tested by the standards and ideas of the present day. The silk industry, however, continued to flourish in the metropolis until the middle of the present century, when, as we shall see later on, it appears to have entered upon a retrograde career.

[1] Pamphlet "On the State of the Silk and Woollen Manufactures," 1713.

If we go back a century and a half, we shall find that England had acquired but little distinction, and probably no supremacy, in any of the great industries of modern times. At that time it was not an uncommon belief that the manufacture of silk was larger than that of any other textiles. This belief was founded mainly upon the fact that the Chinese, who were computed by Gee to number 200 millions in 1670, were chiefly clothed with silk, which was declared by travelling Jesuits to be "so very plentiful and cheap that five suits of silk in China do not exceed the cost of one suit of woollen in Europe." At the beginning of the eighteenth century, this country was chiefly supplied with silks from France and Italy. The King of Sardinia, however, loaded exported silks with such high duties that they cost not less than 20s. a lb.; and as Chinese silks were burdened with a duty of 4s. per lb., the trade began to take root in England. In 1730, there was "but one water-engine for throwing silk in the kingdom," and it is not a little amusing to read that "if that should be destroyed by fire, or any other accident, it would make the continuance of throwing fine silk among us very precarious."

From what has already been stated, it may be inferred that the silk manufacture was always an exotic in England. Although the silk-throwers of the metropolis were formed into a fellowship as early as 1562, and received a powerful stimulus by the immigration of Protestants from France subsequently to the revocation of the Edict of Nantes in 1685, yet it was never found practicable to rear the silkworm in England, and the raw material had to be imported from China, India, Italy, and France.

"For more than a century prior to 1825," says M'Culloch, "the history of the silk manufacture (in England) presents little else than a continuous series of complaints, on the part of manufacturers, of the decay of their trade arising from the clandestine importation of

foreign silks, and of impotent efforts on the part of the Government to effect their exclusion. In consequence of this system the energies of the manufacturers were paralysed, and notwithstanding our astonishing progress in other manufactures, and our superiority in the machinery employed in them, such is the deadening effect of monopoly that the machinery we employed in the silk trade in 1825 was decidedly inferior to that of either France or Germany."

The condition of things thus described by M'Culloch was happily not suffered to continue. Into the manufacture of silk, as into that of other textiles, improvements began to be introduced, until England was quite equal in this respect to Italy, from which, indeed, some of the most important processes had been obtained surreptitiously by an Englishman of the name of Lombes. As a result, the quantity of silk produced by English manufacturers increased enormously. In the ten years ending 1823, our average annual consumption of all kinds of silk was 1,940,000 lbs.; between 1824 and 1833 it averaged 3,968,000 lbs.; and between 1833 and 1843 the average was not less than 5,200,000 lbs. During this period, therefore, our silk industry increased by nearly 200 per cent. The value of our silk manufactures in 1836 was estimated by M'Culloch to be over ten millions sterling, and the same authority calculated the total number of persons engaged in the trade at that time to be 207,304. This figure included those who were engaged in the distribution as well as the production of the material, but even so, it shows that the trade had then attained proportions with which those of few others were comparable.

Since the year 1850, a very remarkable and serious change has befallen our silk industry. It has become shrunken and attenuated in every direction. It has apparently been less able to hold its own in competition with the nations of the Continent; and its absence of

vitality has almost justified the apprehension that it would before long cease to be numbered among our staple industries.

The causes of this decadence can scarcely fail to be a matter of national concern. They do not, however, lie so near to the surface as to be very readily appreciable. Fashion has probably something to do with it. Silks are less worn now than they used to be, relatively to other fabrics. The absence of taste which has been laid to the charge of our manufacturers may also have had a share in the decline. It is probable that the multiplication of small factories has adversely affected economy of production; and that the small margin of profit now left in the silk, as in other industries, has been turned against the English manufacturer. At any rate we have to reckon with this remarkable fact, that while factories have multiplied exceedingly during the last forty years or thereabouts, the total number of spindles as well as the number of operatives employed has been diminishing. In 1850 there were 277 silk factories in Great Britain, employing 42,244 hands, or an average of 152 hands per factory. In 1878 the number of factories had increased to 706, and the number of hands employed had fallen to 40,985, being an average of only 58 hands per factory. The same tendency has been apparent in the mechanical equipment. In 1850 each factory averaged 4424 spindles; in 1861, 1736; and in 1878, only 1443, or less than one-third the average of 1850. In the United States, the very opposite tendency of things has been apparent. The number of factories in that country increased from 67 in 1850, to 382 in 1880; the number of hands employed from 1723 to 31,200; and the average number of hands employed per factory from 26 to 82. It thus appears that while the average size of our silk factories, as ascertained by the number of hands employed, has been diminished to the extent of 62 per cent., that of the

factories of the United States has been increased by 216 per cent.

Now, if it be true, as we have elsewhere endeavoured to show, that manufacturing on a large scale has a great deal to do with economy of working, there may be much more potency in this fact than is generally supposed or admitted. One thing is beyond all question. While the silk manufacture of England has been dwindling and unprosperous, that of the United States has been "advancing by leaps and bounds." An increase of over 460 per cent. in the number of factories, and of over 1700 per cent. in the number of hands employed within thirty years, is a rate of progress rare even in the industrial annals of America. This progress has, of course, been accompanied by, and, indeed, resulted largely from, the attainment of a generally high, but recently diminishing average rate of profit. So far as the census returns can throw light on this subject, they show that the average profit on the capital invested in the American silk trade was in 1850, 62 per cent.; in 1860, 57 per cent.; in 1870, 39 per cent.; and in 1880, 36 per cent.—the profit in all cases being calculated without making necessary allowances for wear and tear and bad debts, &c., which, however, would not vary greatly as between one period and another. This rate of profit has been maintained in the face of continued keenness of competition on the part of Continental States, and increased wages paid to labour. The average amount of wages paid in the United States increased from £35 per operative per annum in 1850 to £60 in 1880. This increased remuneration does not seem to have been concurrent with a corresponding increase in the value of the work produced, which amounted to about £22,000 per 100 hands employed in 1850, and to about £23,000 in 1880, having, however, been much higher in each of the census years 1860 and 1870, when the prices of the products took a higher range. It is also to be remarked that in the United States the capital

embarked in the silk trade has enormously increased, both absolutely and relatively, within the period in question. The absolute increase has been from 678,300 dols. in 1850, to over 19 million dols. in 1880, while the capital embarked per 100 hands employed was 39,900 dols. in the former, and 61,299 dols. in the latter year.

It is by no means cheering to consider the remarkable progress of the United States in the light of our own unquestionable loss of ground. At the same time it is to be remarked that silk is the only one of our textiles in which a serious decline has taken place. It is also important, if not quite consoling, to know that if England is losing her hold upon the silk industry, she is far from being alone. A recent commercial report states that the silk trade of Berlin, which formerly employed nearly 4000 looms, is gradually decaying. The few manufacturers who remain are removing their factories to smaller and cheaper centres, such as Bernau and Brandenburg. This state of things is largely attributed to French competition; but when we examine the industrial statistics of France we find that there also the manufacture of silk has been falling off, and especially in the neighbourhood of Lyons.

While the silk trade has thus been declining in England and Germany, and to a certain extent also in France, it has been making substantial progress in Switzerland, where it employed 56,285 operatives in 1882, as compared with 40,669 employed in the cotton, 39,367 in the watchmaking, and 17,776 in the machine-making industries. In Basle, Jacquard looms are used for much of the work that is still carried on with hand-looms in the Lyons and St. Etienne districts. The artisans employed in the Basle silk factories earn from 7s. 3d. to 23s. 9d. per week; and those of Zurich from 11d.

[1] Reports of Her Majesty's Secretaries of Embassy and Legation, No. 23, 1878.

to 3s. 1d. per day.[1] Low as these wages are by comparison with those paid in England and the United States, they are princely by comparison with those paid on the other side of the Alps. From the same authority we learn that in the north of Italy, where there are nearly seventy silk factories, the most highly paid operatives receive about 1s. 2d. per day, and that 5d. a day is considered good pay for the children.[2] For this miserable pittance, the operatives work 15¾ hours per day, exclusive of meal hours. "The process is repeated for six days, making a total of 94½ hours for the work of the week." Well may the Royal Commissioners remark that "English tourists, as they wander with so much pleasure through some of the loveliest districts in the north of Italy, little suspect that amid so many outward signs of fruitfulness and plenty, the struggle for existence is only maintained by such unceasing toil." And yet it appears that England, where the operatives work very little more than one-half the number of hours per week they do in Italy, and earn more than twice the wages, exports to neutral markets, such as the United States, more than thirty times the value of silk goods that is exported from Italy.

JUTE, FLAX, AND HEMP.—It is pleasing to turn from the contemplation of a manufacture in which England has decidedly lost ground, from whatever cause, to one that is marked by no symptoms of decrepitude and decay, and in respect to which we now more than ever stand in the front rank.

There is probably no industry carried on in our own country on an extensive scale that exhibits the same strong proof of the capacity of Englishmen to take full advantage of opportunities as that of the jute trade. Jute, as is well known, is the fibre of plants of the *cochorus* order, which are to be found in almost every

[1] Report of Royal Commission of Technical Instruction, vol. i. p. 279.
[2] Ibid. p. 388.

part of India. Although specimens of this plant had been sent to England at several different times, previous to the beginning of the present century, it was not till 1824 that it was really put to a practical test as a substitute for flax. Between that time and 1833, several attempts were made in this direction, especially in Dundee. But for several years after the practicability of spinning jute had been established, it was mixed with flax and tow, and it was not until 1835 that pure jute was regularly spun and sold.[1] Three years later, the total quantity of jute imported into Dundee was only 1136 tons; but in 1848, the imports had increased to 58,474 tons, and since then they have almost continuously increased.

Perhaps the best test that could be furnished by way of illustrating the progress of the hemp and jute trades is that of the weight of imports of raw material, seeing that these represent the actual volume of business without reference to fluctuations in value. In 1869, the total quantity of hemp, flax, and jute imported into the United Kingdom was 5,094,059 cwts.; in 1883 this volume had exactly doubled, showing, therefore, an increase of 100 per cent. within fourteen years. But the increase is not shown equally in each of the three materials, for jute has increased from about 2½ to about 7½ million cwts., while flax shows approximately the same returns for both years, and hemp, &c., has increased from a million to rather under a million and a half hundredweights. The increase, therefore, has mainly been in the single item of raw jute, of which our imports are now precisely one-half those of raw cotton, and nearly double those of raw wool.

It is not a little remarkable that Great Britain has retained her supremacy in the jute and linen trades to a greater extent than in almost any others. In the cotton, wool, and silk trades, in the manufacture of iron and steel,

[1] "The Industries of Scotland," by David Bremner, p. 252.

in the mechanical arts, and in a hundred minor industries, her pre-eminence has been threatened, and in some cases with unmistakeable success. But she remains *facile princeps* in this great branch of industry, and the United States, our chief competitor in so many other manufactures, is "not in the running." It seems, indeed, as if certain industries are distinctly unfitted to take root in the latter country. The tin-plate manufacture has hitherto been one of these, although there seems, on the face of it, no good reason why America (which has all the raw materials at ready and abundant command) should not manufacture tin plates quite as well as Great Britain. The jute and linen industries are quite as far from being racy of American soil as that of tin plates, but for a much better reason. America does not grow either flax or jute; the raw materials would therefore require to be imported, and so long as America artificially increases the price of all commodities by a protectionist tariff that adds an average of 40 to 42 per cent. to their cost, it is scarcely possible to conceive of her being able to develop an industry dependent on imported supplies of raw material. As it is, there are, or were in 1880, four jute factories in the whole of the United States, employing a total of 525 hands, while linen goods are produced at five other factories, employing, unitedly, a further number of 500 hands. With such limited dimensions, both industries may almost be regarded as non-existent; and up to the present time the United States have been content to import the great bulk of both commodities from our own country.

There is no recent feature of the linen industry that is more conspicuous and at the same time discouraging than the decadence of the growth and manufacture of flax. To begin with, it has been proved that the soil of Ireland is peculiarly well adapted to the growth of flax, so that in this respect we are not necessarily dependent upon extraneous sources of supply. It has been said also that Ireland could grow more flax than would suffice to meet

the wants of Europe,[1] and that Irish flax is much superior to that grown on the Continent. And yet the curious phenomenon of a gradually diminishing out-put of flax is the answer to these favourable conclusions. The area of the soil of Ireland under flax crops varies considerably from year to year, the maximum during the last ten years having been 157,540 acres (1880), and the minimum (in 1883) only 95,943 acres. The yield is likewise exceedingly variable, having fluctuated between a maximum of 35.5 stones per acre in 1875, and a minimum of 27.0 stones in the previous year. The total quantity of flax grown in Ireland in 1883 was only 18,292 tons, being about 30 per cent. of the total quantity imported from other countries in the same year, and the smallest production of any year since 1874. Concurrently with this decline in the quantity of flax produced in Ireland, there has been a corresponding decline in the number of mills for scutching flax, the total of which fell from 1380 in 1874 to 1132 in 1883. It is clear, therefore, that this, which is almost the only indigenous industry of Ireland, has not, of late years, been as healthy as could be desired. The reasons for this state of things we shall not now attempt to analyse. Flax has been said to be either the worst or the best crop that a farmer can grow—the best with proper care and knowledge, the worst in the absence of these essentials. It may be that Irish agriculturists have not sufficiently appreciated this fact; but it is more probable that jute has been preferred as a less costly and more suitable material. After this statement, it will not excite so much surprise when we add that between 1870 and 1880 the number of flax factories in the United Kingdom has fallen from 500 to 400; the number of hands employed from 124,000 to 109,000; and the number of spindles from 1,549,000 to 1,329,700. There has, however, been an increase of about 5000 in the number of looms.

[1] "Report of Social Science Congress at Belfast," 1867, p. 676.

Jute has been no exception to the rule that has already been more than once referred to, of the tendency of prices of raw materials within recent years towards an apparently irreducible minimum. In 1833, the price at which it was sold in Dundee was £12 per ton, but that was then deemed to be an exceedingly low figure, as is evident from the fact that only four years later, when the value of the fibre had to some extent been recognised, its price rose to £23 per ton.[1] From that time till 1870 the price generally fluctuated between £16 and £23, and in 1883 it touched about the lowest figure known up to that time, namely, a fraction over £12 per ton, or practically the same price at which it was offered in 1833, when it had yet to make its way as an article of commerce, and was both unknown and discredited.

We now propose to consider the influence that differences in the rates of wages paid in jute-manufacturing countries may be expected to exercise upon the future of that industry. In approaching this problem, it is necessary to remember a fact that has already been more than once established by our investigations, namely, that low wages do not always mean a low cost of production, but that, on the contrary, they are often coincident with, and the direct result of, an entirely opposite condition of things.

The countries that chiefly claim consideration in any comparison of the kind we have just suggested are India, France, and the United States—India, because the raw materials are there more abundantly at command than in any other country, while wages are very much lower than in any part of Europe; France, because the jute industry has of late years made considerable progress in that country; and the United States, because, although now one of our best markets, we may reckon upon being ultimately, and perhaps before very long, excluded from American markets in this as in our other staple productions.

[1] Bremner's "Industries of Scotland," p. 252.

In 1883, the wages paid in the jute trade in Calcutta and Dundee, respectively, were as under:—

| Occupation. | Calcutta. Weekly Wages. | Dundee. Weekly Wages. |
|---|---|---|
| | *s.* *d.* | *s.* *d.* |
| Batching and preparing . . | 2 10¼ | 10 6 |
| Spinning . . . . | 5 0 | 11 0 |
| Warp-winding . . . | 2 7½ | 6 9 |
| Weft-winding . . . | 6 6 | 14 0 |
| Beaming . . . . | 5 0 | 15 0 |
| Weaving . . . . | 9 0 | 12 0 |
| Calendering . . . . | 5 0 | 14 0 |
| Labourers . . . . | 4 0 | 20 0 |

From these figures it appears that the average wages paid in Dundee are 107 per cent. higher than the wages paid for the same work in Calcutta, limited, however, by the fact that in Dundee the hours of labour are considerably longer. With so obvious an advantage in wages in favour of Calcutta, it is natural to suppose that India could easily compete with England in neutral markets. The official returns show that, whereas the exports of manufactured jute from India, between 1873 and 1881, increased from less than £200,000 to over a million pounds, those of Great Britain, in the same interval, increased from £1,590,000 to £3,262,000. It would, therefore, appear as if India were destined to become a successful rival of the mother country. But it should never be forgotten that, while India has the advantages of ocean freights and cheaper labour, she has neither the capital nor efficiency of administration at command that distinguish the mother country; and it is very doubtful whether British labour at double the nominal cost is not, after all, cheaper than that of Hindoos, who are unfitted both by their natural want of stamina, and by their enervating climate, from competing with Europeans.[1]

[1] Sir James Caird was informed by British officials in India that in the nett result Hindoo labour just cost as much as British (*Nineteenth Century*, 1879).

In France, the linen and jute trades have made substantial progress within recent years, but not to anything like the same extent as in England. Under a system of absolute free trade, it is scarcely probable that the French industry could compete with that of England, for it has not the same facilities for procuring cheap supplies of the raw material; and even if the labour were as efficient, and the management and *technique* equally skilled, fuel is more costly. So far as wages are concerned, the following statement of the rates paid in the jute factories of England and France in 1872 is given on the authority of Mr. Alexander Redgrave[1]:—

*Rates of Wages paid in Jute Industries.*

| Occupation. | England. | France. |
|---|---|---|
| | *s. d.* | *s. d.* |
| Spinners | 8 6 to 9 3 | 11 6 |
| Piecers | ... ,, 7 0 | 5 0 |
| Shifters | ... ,, 5 0 | 5 0 |
| Winders | ... ,, 12 0 | 11 6 |
| Weavers | 7 3 ,, 11 0 | 15 0 |
| Carders | ... ,, 8 6 | 8 6 |
| Rovers | ... ,, 8 6 | 10 6 |
| Drawers | ... ,, 8 0 | 7 6 |
| Feeders | ... ,, 8 3 | 8 6 |

It will be seen from the foregoing return that, at the period in question, France had no advantage over England, but rather the contrary, in the matter of labour cost. Since 1872, wages have considerably increased, both in England and in France.[2]

The average weekly wages paid in the flax and jute trades of the United Kingdom and Massachusetts, respec-

[1] It is perhaps too much to assume that the relative differences in 1872 will approximately apply to the present time.

[2] The official French Annuaire gives the following as the average daily wages paid in the jute trade in 1880, in francs:—

| | Men. | Women. | Children. |
|---|---|---|---|
| Spinning | 3.30 | 1.68 | 1.12 |
| Weaving | 3.08 | 1.75 | 1.14 |

tively, are stated by the Bureau of Statistics of Labour of the latter State to have been, in 1883—

| | In Great Britain. | In Massachusetts. |
|---|---|---|
| | *s.* *d.* | *s.* *d.* |
| To men | 28 0 | 35 6 |
| To women | 10 6 | 20 10 |
| To young persons | 6 6 | 16 8 |
| To children | 2 2 | 11 10 |

If those figures may be accepted as typical of the differences to be found throughout the two countries as a whole, it is clear that America stands at a very great disadvantage in the matter of labour. This is a serious fact for a country that requires to employ, as America does, from 80,000 to 100,000 tons of jute a year for bagging for the enormous and largely-growing export of cereals. During the American fiscal year, 1884, upwards of *thirty-three million dollars'* worth of flax, hemp, and jute were imported into the United States, either in a raw or a manufactured state. More than a hundred and twenty thousand tons of these materials were imported in an unmanufactured condition, and more than three-fourths of the whole supply were received from the United Kingdom. Will this state of things be allowed to continue? Certainly not, if the Americans can help it. Companies are now being formed for the purpose of growing jute, and factories are being promoted for its manufacture. We have already seen how little success has hitherto attended these efforts. The future, however, will greatly fail to maintain the experience of the past, if the American people should continue to be dependent on Europe.

## CHAPTER XV.

### *COST OF LIVING IN DIFFERENT COUNTRIES.*

THERE cannot, within certain limits, be any better test of the prosperity of a country, or of the suitability of it economic system to its circumstances, than the relativ range and tendency of prices. When wages generall are high, under any code of economic laws that ar not intended to increase them artificially at the expens of a particular section of the community, it may b assumed that a high degree of prosperity is being enjoyec When wages and prices rise together, and in equal prc portions, it may be assumed that the demand for both i being increased, or that the supply of both has dimir ished. But when wages rise and prices fall, it is a proc that the circumstances of the country are in every wa being altered for the better, no matter whether this altera tion is due to an extended export trade, to the increas and greater cheapness of imports, or to both together.

In the United States the tendency of recent years ha been for both wages and the cost of living to take higher range. According to the reports of the Massa chusetts Bureau of Statistics of Labour, the movement o wages in the chief industries of that state, as betwee 1878 and 1881, was represented by the following item of increase :—

| Occupation. | Increase of wages. |
|---|---|
| Agriculture . . . . . | 14·1 per cent. |
| Blacksmith's work . . . . . | 11·8 „ |
| Building trades . . . . . | 4·9 „ |

| Occupation. | Increase of wages. |
|---|---|
| Clothing industries | 20·7 per cent. |
| Cotton „ | 9·1 „ |
| Glass „ | 11.6 „ |
| Hosiery „ | 13·5 „ |
| Leather „ | 5·5 „ |
| Machinery „ | 22.0 „ |
| Metallic „ | 2·0 „ |
| Do. (fine work) | 13·7 „ |
| Musical instruments | 13·3 „ |
| Paper | 7·5 „ |
| Printing | 10·2 „ |
| Stone | 11.4 „ |
| Woollen goods | 7·3 „ |

—the average increase over the whole, after making allowance for a few items of decrease in the cabinet-making, carpet, carriage-building, &c., trades, being 6·9 per cent.

Against this increase of wages, however, there is to be reckoned a more than corresponding increase in the cost of living within the same interval. Drawing our information again from the official source referred to, we find that the prices of commodities have increased in Massachusetts, between 1878 and 1881, in the following centesimal proportions:—

| | |
|---|---|
| Groceries | 9.1 per cent. |
| Provisions | 20·1 „ |
| Fuel | 31·1 „ |
| Dry goods | 9·0 „ |
| Rents | 35·1 „ |
| Board | 13·7 „ |

while the only considerable item of expense in which there has been a decrease (= 1·6 per cent.) has been boots and shoes.

The average increase in the cost of living as between 1878 and 1881 having been 21.2 per cent., while the average increase of wages has only been 6·9 per cent., it follows that the condition of the working classes of the chief industrial state in the American Union has actually become worse to the extent of 14·3 per cent.

It would probably be impossible to find a more striking example of the too often forgotten truth that mere increase of wages must not be accepted as a substantial proof of prosperity or improved circumstances, unless it is considered in relation to the cost of living; and for the same reason the figures prove that mere statistics of wages, unaccompanied by the further details required to illustrate the real condition of the wage-receivers, should always be received with reserve.

Perhaps the most striking item in the tables just quoted is that which shows the increase in the cost of house rent. That this should have increased within three years to the extent of 35.1 per cent., seems on the face of it almost incredible, and the statement would be open to very grave suspicion were it not accredited by the usually accurate and always painstaking Bureau of Labour Statistics—an organisation which, although carried on in a state which is highly protectionist, and in which any advantages that protection is calculated to confer are realised to the fullest extent, is nevertheless always honest and impartial in the record of its investigations.

But it is a perfectly fair and reasonable objection to raise to the figures we have just presented, that they apply to a very short interval of time, and that if reliable figures were collated over a considerably longer period, the conclusions arrived at might be very different. Probably no one will be found to deny that a period of twenty years is sufficiently long to test the working of any economic system, however comprehensive or complicated it may be. At any rate, there is no good reason to believe that the results brought out by an examination of figures extending over a longer period than that would be either very much different, or one whit more likely to lead to a sound and conclusive judgment. We propose, then, to see how far prices and wages have been affected by the economic legislation of the last twenty years in the two chief industrial countries of the world.

One of the most interesting tables illustrative of the purchasing power of money, as between one period and another, that even the Massachusetts Bureau of Labour Statistics has ever collated, shows the quantity of groceries, &c., that a dollar was capable of buying at different periods. Selecting from this table the years 1860 and 1881, as affording a comparison over twenty years, we find that the results come out as follows:—

| Articles. | Purchasing Power of a Dollar (4s. 2d.) in | |
|---|---|---|
| | 1860. | 1881. |
| Best wheat | 25.64 lbs. | 19.76 lbs. |
| Corn meal | 45.45 „ | 32.0 „ |
| Codfish, dry | 18.87 „ | 13.33 „ |
| Rice | 13.3 „ | 10.2 „ |
| Beans | 12.6 „ | 7.5 „ |
| Beef, roasting | 9.1 „ | 5.8 „ |
| Veal, fore-quarter | 13.7 „ | 8.5 „ |
| Veal, cutlets | 7.0 „ | 5.0 „ |
| Mutton, fore-quarter | 13.5 „ | 8.8 „ |
| Pork | 9.2 „ | 7.6 „ |
| Hams, smoked | 7.7 „ | 6.5 „ |
| Butter | 4.5 „ | 2.8 „ |
| Cheese | 7.5 „ | 5.7 „ |
| Potatoes | 1.6 bushels. | .79 bushels. |
| Coal | 312.5 lbs. | 255.1 lbs. |
| Rent—4-room tenement | 6.7 days. | 3.7 days. |
| Board (men) | 2.5 „ | 1.47 „ |

When we come to examine the cost of clothing at the two periods under review, we find exactly the same tendency of prices apparent, although not quite to the same extent. It is only proper to remark that there are two items under the head of dry goods—ticking and prints—of which a dollar would have bought a larger quantity in 1881 than in 1860.

A very slight examination of the figures just tabulated will show that the principal items involved in the necessary cost of living have increased as between 1860 and 1881 in the following proportions:—

| | Increase in 1881 on 1860. |
|---|---|
| Wheat | 30 per cent. |
| Potatoes | 130 „ |
| Beef | 64 „ |
| Rent | 81 „ |
| Board | 80 „ |
| Coals | 23 „ |

It now requires that we should see how far the increase in wages within the same interval has kept pace with this enormous advance in the cost of living. Happily, the same source furnishes the data necessary for such a comparison. The average weekly wages paid in some hundreds of occupations between 1860 and 1881 are given in the Report in question, but from this list we will only select about a dozen leading classes of occupations which will be fairly typical of the whole. These are appended:—

| Occupation. | Average Weekly Wages paid in | |
|---|---|---|
| | 1860. | 1881. |
| | Dols. | Dols. |
| Agricultural labourers (with board) | 3.4 | 4.5 |
| Blacksmiths | 9.30 | 16.38 |
| Shoemakers | 10.33 | 12.21 |
| Masons | 11.45 | 14.04 |
| Building labourers | 7.12 | 8.60 |
| Machinists | 9.64 | 17.09 |
| Tanners | 6.83 | 8.74 |
| Engineers | 10.50 | 15.00 |
| Printers | 12.71 | 16.00 |
| Stone quarrymen | 5.70 | 8.00 |
| Wool sorters | 6.98 | 9.43 |
| Weavers | 5.50 | 8.33 |
| Carpenters | 9.92 | 12.64 |

In the occupations herewith tabulated, the average increase of wages between 1860 and 1881 was 36 per cent. Probably this will be as near the mark as we can get by any amount of further analysis, although it is to be remarked that in a good many cases there has not only been no increase of wages whatever, but a decrease has actually occurred. Such, for example, is the case

with boot-finishers, edge-setters, slaters, carvers, carpet weavers, carpet-frame spinners, bobbin boys in cotton factories, &c. Against such examples there are, on the other hand, many in which a greater increase than 36 per cent. has occurred in the twenty years under consideration.

There is no gainsaying the conclusion that when an average increase of 36 per cent. in wages is put against an average increase of 80 per cent. in board and 81 per cent. in rent, it does not say much for the improved condition of the working classes as a whole, to whom these two items represent at least two-thirds of the entire cost of living. Nor does it speak much for that protectionist system which America has so carefully built up and so tenaciously clung to. But in order that there may be no possible mistake about the comparative results of the economic principles and practice of the two countries, we shall do well to consider the course of events as regards wages and the cost of living in free-trade England during the same period.[1]

At the outset, it is necessary to remember that prices vary so greatly for the same commodity, even in adjoining districts, as to make an investigation of this kind extremely difficult. A very good idea of the differences that may be found to exist in the prices of commodities, not only in the same country and province, but in the same district and at the same time, is supplied by the

[1] It will be argued, probably, that the statistics apply only to one state, and that relatively a small one. This is perfectly true, but if Massachusetts is comparatively limited in area, it is the *third* most important state in America as regards the magnitude of its commercial and industrial interests, having in 1880 over 425,000 of its population engaged in commerce and industry. Its near proximity to New York and Pennsylvania may, moreover, be taken to mean that the average wages paid will approximate very closely; and when we remember that in these three states collectively there are engaged 2 millions of the 5½ millions of the population of the United States engaged in industry and commerce in 1880, it would seem as if the wages and prices quoted will apply to something like 40 per cent. of the whole industrial community.

reports of the Local Government Board. In the Metropolitan pauper schools the *maxima* and *minima* of the prices paid in 1882 for the articles named were as under:—

| Commodity. | Highest Price. | | Lowest Price. | | Amount of Difference. | |
|---|---|---|---|---|---|---|
| | *s.* | *d.* | *s.* | *d.* | *s.* | *d.* |
| Flour, per sack | 41 | 3 | 33 | 6 | 7 | 9 |
| Bread, per cwt. | 15 | 1 | 6 | 5 | 8 | 8 |
| Mutton, per stone | 11 | 3½ | 8 | 0 | 3 | 3½ |
| Beef, do. | 8 | 1 | 3 | 5 | 4 | 8 |
| Bacon, per cwt. | 100 | 4 | 63 | 0 | 37 | 4 |
| Milk, per gallon | 1 | 4 | 0 | 9½ | 0 | 6½ |
| Eggs, per 120 | 15 | 0 | 7 | 8 | 7 | 4 |
| Butter, per cwt. | 168 | 0 | 80 | 0 | 88 | 0 |
| Lard, do. | 93 | 4 | 49 | 0 | 44 | 4 |
| Cheese, do. | 92 | 6 | 52 | 0 | 40 | 6 |
| Tea, per lb. | 2 | 4 | 1 | 2½ | 1 | 1½ |
| Coffee, per cwt. | 140 | 0 | 107 | 4 | 32 | 8 |
| Rice, do. | 15 | 10½ | 10 | 10½ | 5 | 0 |
| Oatmeal, do. | 23 | 4 | 13 | 7½ | 9 | 8½ |
| Potatoes, per ton | 126 | 6 | 87 | 6 | 39 | 0 |
| Ale, per barrel | 45 | 0 | 28 | 6 | 16 | 6 |

When we come to analyse the foregoing table, it will be found that in many cases the prices paid for nominally the same commodity often varies to the extent of 100 per cent. or more, and that, too, in localities within a few miles of each other. It is to be presumed, of course, that the quality of the commodities also varies greatly, though not perhaps to the same extent. Selecting, as an example, the case of bread, it is difficult to understand how the quality could vary to an extent that would be fairly represented by the difference between a *minimum* of 6s. 5d. and a *maximum* of 15s. 1d. But there will exist in all districts and in all countries variations of price, that have necessarily more or less relation to the quality of the commodities purchased.[1]

[1] Were this a fitting occasion, attention might be directed to the radical defects of administration to which the above figures point. If the prices represented the difference between Belgravia and Bethnal Green they could hardly be more striking than they are, although applying to commodities *purchased with the public money for a public purpose*, and practically in the same market.

Subject to the reservations already stated, we now proceed to compare the cost of commodities in England at different periods.

Mr. Montgomery, President of the Manchester Statistical Society, gives the following statement of the prices paid for commodities at the Manchester Royal Infirmary in each of the years 1834 and 1884:—

| Commodity. | Prices. | | | | Percentage of | |
|---|---|---|---|---|---|---|
| | 1834. | | 1884. | | Increase. | Decrease. |
| | *s.* | *d.* | *s.* | *d.* | | |
| Flour, per sack | 38 | 0 | 35 | 0 | — | 8 |
| Meat, per lb. | 0 | 5 | 0 | 7⅜ | 48 | — |
| Milk, doz. quarts | 2 | 2 | 2 | 6 | 15 | — |
| Butter, per lb. | 0 | 10 | 1 | 2 | 40 | — |
| Cheese, per cwt. | 60 | 0 | 66 | 4 | 11 | — |
| Coffee, per lb. | 1 | 10 | 1 | 0 | — | 46 |
| Tea, do. | 5 | 0 | 1 | 9½ | — | 65 |
| Potatoes, per load | 7 | 6 | 9 | 8⅛ | 29 | — |
| Coals, per ton | 11 | 8 | 9 | 0½ | — | 23 |
| Sugar, per cwt. | 72 | 0 | 26 | 0 | — | 64 |
| Soap, do. | 50 | 6 | 30 | 0 | — | 40 |
| Gas, 1000 feet | 10 | 3 | 2 | 8¾ | — | 74 |

It has been calculated that if the same prices had been paid in 1834 as in 1884 for the articles enumerated in the foregoing list, the total amount would have been £1123, or 18 per cent. greater. Excluding the charge for gas, the difference would have been £131 or 2¼ per cent. in favour of 1884. On these facts Mr. Montgomery remarks, that "with the same wages a man can now buy more of the necessaries of life than he could fifty years ago, and some of the luxuries which were then beyond his means."

Limiting our observations to a shorter period, we now present the following average prices of selected articles of domestic consumption, computed from the quantities and values of the imports of such produce into the United Kingdom, in each of the years 1860 and 1880:—

*Average Prices of Imports into the United Kingdom.*

| Article. | Year 1860. | Year 1880. |
|---|---|---|
| Oxen, per head | £13.70 | £20.00 |
| Sheep, do. | 1.78 | 2.30 |
| Butter, per cwt. | 4.90 | 5.75 |
| Cheese, do. | 2.56 | 3.50 |
| Coffee, per lb. | 0.03 | 0.04 |
| Wheat, per cwt. | 0.46 | 0.61 |
| Flour, do. | 0.72 | 0.91 |
| Tea, per lb. | 0.07 | 0.06 |
| Potatoes, per cwt. | 4.73 | 5.84 |
| Rice, do. | 0.53 | 0.43 |
| Totals | £29.48 | £21.44 |

From this it would appear that, instead of an increase over the whole range of prices, as we found in the case of the United States for the same period, there has been a decrease during the twenty years under review of about 28 per cent.

In reference to clothing, the same tendency has been appreciable, so far as we are enabled to form a judgment from the returns of the values of raw materials imported into the United Kingdom. The following are returns of the prices of the principal commodities imported on this account:—

*Average Prices of Raw Material for Clothing.*

| Article. | Average declared Value over Year. | |
|---|---|---|
| | Year 1860. | Year 1880. |
| Cotton, per cwt. | £3.16 | £2.89 |
| Wool, per lb. | 0.07 | 0.05 |
| Silk (raw), per lb. | 1.02 | 0.90 |
| Hides (raw), per cwt. | 3.72 | 3.18 |

The average percentage amount of decrease in the cost of the principal articles imported for clothing in this interval was over 12 per cent.

It would be easy to multiply figures of this kind, but it is neither necessary nor desirable. The fact that there has been a general, and in some cases a considerable, decline in the prices of commodities within recent years is so obvious that "he who runs may read." That there has at the same time been an increase in the cost of certain necessaries is undeniable, and it is also generally true that house rent and taxes have been increased, but such an increase has been fully compensated for by the additional comforts and conveniences that it has been designed to purchase.

The question of how far the rates of wages paid in this country have increased within recent years has been rather fully considered in another chapter, so that it is unnecessary to enter upon it here in any detail. We have found that during the last thirty years the working classes of Great Britain have enjoyed a very considerable advance of remuneration, alike for skilled and for unskilled labour, concurrently with such a large reduction in the hours of labour as has made the average English working day the shortest of any civilised country in the world, perhaps excepting Australia. This increase of wages is undeniable, but there are differences of opinion and of statement as to its amount and incidence. On the latter point, probably no more reliable evidence could be found than that afforded by the joint but independent testimony of Mr. Lord, the late President of the Manchester Chamber of Commerce, and Mr. Montgomery, the President of the Statistical Society of the same city, both of whom have ascertained that such increase since 1850 has not been less on the average than 40 per cent. Since 1860, the increase has been put by Mr. Lord at 24·3 per cent. for eighty-five different occupations.

The grand result at which we have now arrived in our comparison of the two leading industrial nations of the world is, shortly, this—

1. That in the United States, during the twenty years ending 1880, the average increase of wages has only

been 36 per cent., while the average increase in the cost of board has been 80 per cent., and in the cost of rent alone 81 per cent.

2. That the condition of labour in England during the same period has been improved to the extent of 24.3 per cent. as regards wages, and 28 per cent. as regards the cost of the more important items of domestic consumption.

It may be objected that the figures on which these general results are based are only applicable to certain districts, and are derived from partial sources. With regard to the first point, it is to be observed that there is much in common between Manchester and Massachusetts, so that the figures are in the main strictly relevant and parallel to each other. Both are great centres of industry, especially of the cotton trade; both have an industrial population largely exceeding the agricultural; and both are surrounded by other industrial centres, in which the wages paid will closely approximate to those which *they* pay. As to the sources whence the returns are obtained, it need only be remarked that no objection can possibly be taken to them that would not apply with probably much greater force to any other source. Both the Massachusetts Bureau of Labour Statistics and the Manchester Chamber of Commerce are as much above suspicion, and as much to be depended on for accuracy and completeness of facts, as any authorities that could be appealed to; and it should not be forgotten with reference to the former, that the data which it has collected as to wages and prices are collected for local purposes, and are not intended—or, at any rate, are not used by the Bureau itself—to prop up their economic system of protection to home industries.

Up to the point at which we have now arrived, the conditions of our comparison have been, as already stated, as parallel as is necessary to establish its value and *vraisemblance*. From this point, however, the conditions of the comparison cease to be equally relevant; for while

the improvement in the earnings and the reduction of the cost of living of the working classes of the United Kingdom have been enjoyed more or less by all classes of the community, it has been otherwise in the United States, where the manufacturing population has benefited, so far as any benefit, real or apparent, has been enjoyed, at the expense of the agricultural.

This consideration is so important as to demand that we should bring it to the test of figures, and if we digress a little for that purpose, the result may be found to justify the departure.

Out of every 1000 persons employed in the United States in 1880, 250 were farmers or stock-raisers, and 191 were farm labourers, making a total of 441, or 44 per cent. of the aggregate number engaged in gainful occupations, as compared with 207, or 20 per cent. of the whole, engaged in manufacturing and mechanical employments. Obviously, therefore, the agricultural is by far the more important section of the community.

The following returns of the monthly rates of wages paid in America for agricultural labour in each of the years 1866 and 1879 have been prepared and issued by the United States Commissioner of Agriculture:—

| Group. | Monthly Wages Paid in | | Decrease in 1879. |
|---|---|---|---|
| | 1866. | 1879. | |
| | Dols. Cents. | Dols. Cents. | Dols. Cents. |
| Eastern States . . . | 33 30 | 20 21 | 13 09 |
| Middle States . . . | 30 07 | 19 69 | 10 38 |
| Southern States . . . | 18 00 | 13 31 | 4 69 |
| Western States . . . | 28 91 | 20 38 | 8 53 |
| California . . . . | 35 75 | 41 00 | +5 25 |

The agricultural labourer, therefore, has suffered an average reduction in 1879, as compared with 1866, of not less than 6.39 dols. per month, and in the Eastern States, where, as we have just seen, the cost of board has been increased by 80 per cent., and of rent by 81 per

cent., as between 1860 and 1880, his wages have been diminished by not less than *thirteen dollars per month.*

What, meanwhile, has been the relative position of the English agricultural labourer? Let us see what the Report of the Royal Commission on Agriculture has to say on the subject. From Mr. Coleman's Report on Northumberland, we learn that in the years 1860 and 1880 respectively, the average wages paid on one of the chief farms in that county were as under:—

| Employment. | Weekly Wages Paid in | | Percentage. |
|---|---|---|---|
| | 1860. | 1880. | Increase in 1880. |
| Foreman . . . . | £0 17 0 | £1 1 0 | 23.5 |
| Hind (labourer) . . . | 0 16 0 | 0 18 0 | 12.5 |
| Woman worker . . . | 0 5 10 | 0 8 9 | 60.0 |

These figures are more or less corroborated by the whole tenour of the Report of the Royal Commission, but it does not seem necessary to produce piles of additional statistics in order to establish a fact sufficiently obvious and generally admitted.

Is anything more required to prove the superiority of the system that England, after mature deliberation, and in spite of much misgiving and doubt in many quarters as to its wisdom, has chosen to adopt, over that which is still the choice of other countries? Under our system, we see wages rising and prices declining, so that the people have the enjoyment of its fruits in a double degree; under theirs, wages have risen, it is true, in protected industries, but even in that case not to anything like the same extent that the cost of living has been increased, while the wages of those who have done, and are still doing, more than any other class to promote the prosperity of the country have largely declined. There is in all this something positively iniquitous, and we may well ask, in view of evidence so irrefragible as to the utter

badness of a system under which such a condition of things is possible—

> "Is our civilisation a failure,
> Or is the Caucasian played out?"

It is now worth while to endeavour to ascertain the average actual cost of maintenance of the inhabitants of the two countries under consideration.

The actual cost of living in the United States, as calculated from the ascertained "cost of feeding seventeen adult men, most of them mechanics hard at work, and eight women, three of whom were servants, for six months of 1884, in a manufacturing village in Massachusetts," has been made the subject of careful inquiry by Mr. E. Atkinson,[1] who has also, on a statement of the "actual cost of the food eaten during the same period by seventy-two adult female factory operatives and eight servants, in Maryland," shown the expenditure incurred on the same account for that state.

As might be expected, the average cost of food in Maryland was found to be considerably higher than in Massachusetts, the difference mainly consisting in the items of meat and flour. The daily average for the former state was 13½d., and for the latter 9½d. per day, the difference between the two thus amounting to about 40 per cent. By taking a mean of the two states, it is found that the average cost of food per individual per annum amounts to within a fraction of £18, and that the total cost of feeding a population of fifty millions of adults, which is a figure soon to be realised in the United States, would be about 904¼ millions of pounds.

It has been computed by Mr. David A. Wells that the annual drink bill of the American people amounts to about 99 millions sterling, which, again assuming a population of fifty millions, would give an average of rather under £2 per head, and bring up the total average

[1] *Vide* Bradstreet's, April 18, 1885.

expenditure per individual in respect of food and drink to £20 per annum.[1]

It is interesting to compare the foregoing calculation for the United States with one almost equally recent, showing the daily expenditure per head of the population of the United Kingdom (Professor Levi) :—

| | Gross per Day. D. | Nett per Day. D. |
|---|---|---|
| Bread | 1.41 | 1.12 |
| Potatoes | .64 | .51 |
| Vegetables | .32 | .25 |
| Meat | 1.87 | 1.55 |
| Fish | .26 | .23 |
| Butter and cheese | .67 | .56 |
| Milk and eggs | .78 | .66 |
| Fruit, &c. | .19 | .17 |
| Sugar | .50 | .46 |
| Tea | .60 | .16 |
| Coffee and cocoa | .05 | .04 |
| Beer | 1.40 | .54 |
| Spirits | .75 | .14 |
| Wine | .16 | .10 |
| Totals | 9.60 | 6.49 |

It would appear from these figures that the average weekly expenditure for food and drink over the whole population of these islands is about 3s. 9.43d. per head per week. If it is assumed that the population is strictly tee-total, the average weekly expenditure per person would be reduced by 5.46d. per head per week, or from 3s. 9.43d.

[1] The proportions of the daily cost for food are thus made up in cents (or halfpence) and decimal parts thereof :—

| | Maryland. | Massachussets. |
|---|---|---|
| Meat, poultry, and fish | 7.58 | 11.82 |
| Dairy and eggs | 3.84 | 7.37 |
| Flour and meal | 2.09 | 2.90 |
| Vegetables | 23.9 | 1.58 |
| Sugar and syrup | 1.98 | 1.90 |
| Tea and coffee | 0.86 | 1.18 |
| Fruit, green and dry | 0.50 | 0.73 |
| Salt, spice, &c. | 0.46 | 0.52 |
| Totals | 19.70 | 28.00 |

to, say 3s. 4½d. per head. From these figures several interesting inferences may be drawn. The first is that of how far the earnings of the population are calculated to afford this average expenditure, and yet leave a sufficient margin for other necessary expenses of living. It has been ascertained that the proportion of the population of this country engaged in remunerative occupations, at the last census, was about 15 millions, out of a total of 35 millions. Each wage-earner, therefore, was required to support 1.3 others who were not in receipt of any emolument whatever. But there is also to be taken into account the loss of earnings from broken time, sickness, and other causes. What this may amount to in the aggregate it would be very difficult indeed to estimate, although several attempts have been made to do so. Assume it to be equal to the maintenance of the remaining .7 of the unproductive population, and we arrive at the conclusion that each wage-earner is required to support two others besides himself or herself. On this basis of computation it would follow that every wage-earner requires to provide the equivalent of 10s. 1½d. per week for food alone for himself and those who depend upon him, in order to maintain the average consumption of the population as a whole.

Next to food, the most necessary items of expenditure are house rent and clothing. Professor Leoni Levi has calculated that the nett expenditure on the latter, in the United Kingdom as a whole, is not less than 123¼ millions sterling, including, however, 4 millions for gold and silver plate, and nearly 15 millions for silk. If we discard these two items, as not affecting the working classes, who form the bulk of the population, we reach a nett expenditure, in round figures, of 104¼ millions sterling a year, equal to about £3 per head of the population, so that if this average were to be applied to the working classes as a whole, each wage-earner would require to furnish about £7 a year for this item for himself and those dependent upon him. This would mean a further outlay of 2·7s. per week.

We now approach the third great item of necessary

expenditure—that of house-rent. The average outlay per head of the population on this account can only be very roughly estimated. Professor Levi has calculated that if house-property is assumed to return an average dividend of 6 per cent., the nett expenditure under this head would be equal to 1.36d. per head per day, or, say, 10.08d. per week, and if it is assumed again that each wage-earner is called upon to provide for 1.3 persons besides himself, he would have to expend about 2s. per week for domiciliary accommodation.

Let us now bring these several items to a focus. The account stands as under:—

| | Weekly Outlay per Wage-Earner. s. d. | | Weekly Receipts per Wage-Earner. s. d. |
|---|---|---|---|
| Food . . . | 10 1½ | Wages . . | 18 4 |
| Clothing . . | 2 8 | Balance . . | 3 6½ |
| Rent . . . | 2 0 | | |

This balance of 3s. 6½d. has to be placed against a number of additional expenses, all more or less necessary, such as coal, gas, and water, which three items Professor Levi has averaged at .49d. per head per day, or say 3½d. per week. But, even so, it appears to leave a small margin for the accidental and generally inevitable expenses incurred by even the most thrifty and calculating.

No one possessed of any knowledge of the subject would for a moment claim that these calculations are more than a very rough estimate of the facts. They are indeed subject to a number of obvious qualifications. They assume, to begin with, that the very poor spend as much as the very rich in all the necessary items that go to make up the cost of living. This assumption may not be so very far wide of the mark as regards the item of food, although even in this respect there must be a wide margin of difference in the *per capita* outlay as between the peer's palace and the peasant's hut. But it is otherwise with the items of house-rent and clothing. The costly fabrics that are used to furnish forth the persons of the aristocracy must represent a much greater annual outlay *per capita* than

the plain home-spuns and shoddy remnants that are resorted to by those who depend on daily wages. Similarly, it requires no argument to show that a great gulf is fixed between the rental value of the palaces in Belgravia and Mayfair, and the humble abodes of the Whitechapel coster—between the "stately homes" of the landed aristocracy, and the "shanty" of the agricultural labourer. When every fair allowance has been made for these differences, it may be found that the margin within which the average wage-earner and his family lives, and is compelled to live, is much less than that which is the apparent average of the whole population. On the other hand, it is equally evident that an artizan or labourer in receipt of average weekly wages, and in steady employment, may live up to the average of the whole country, and yet have a certain margin to spend upon those matters that are commonly described as luxuries. It appears to be established by the report of the British Association on the subject of the appropriation of wages,[1] that a nett average expenditure per day of 12.71d.—say 7s. 6d. per week—allows for many articles of luxury to be indulged in by the population as a whole, covering even the expenditure on gold and silver plate, theatres, the church, education, and taxation.

Although the average cost of bare maintenance in the United States will probably not differ very considerably from that incurred in Great Britain, a very serious difference becomes apparent when we come to reckon the items of house-rent and clothing. On the basis of a computation from the census returns, from the statistics of imports, and an estimate of the cost of converting cloth into clothing, it has been calculated that the total expenditure incurred in providing the people of the United States with the last-named requisite is not short of 362½ millions sterling, being an average of £7, 5s. 0d. per annum for every man, woman, and child in the country. The actual ex-

[1] Report for 1881, p. 289.

pense incurred on this account is, however, much greater than that shown in these figures. There is probably not one of the hundreds of thousands that now cross the Atlantic yearly who does not carry back to America, as personal luggage, a stock of clothing purchased in Europe. If the value of the clothing so introduced into the States could be accurately ascertained, it is probable that it would bring up the average cost of that item per head of the American people to quite £10 a year, or exactly one-half the total annual amount required to be expended in food and drink.

The question of how far the variations in the prices of commodities within recent years have tended to a higher or a lower range in Continental countries is one that is extremely difficult to answer satisfactorily. There is, however, ample evidence to support the conclusion that in countries that are accustomed to impose duties on imported food, the increased purchasing power of money has not been realised to the same extent as in England, where imports of all articles of necessary consumption are practically free. Nor has this alone affected the differences that will be found to exist. Belgium, for example, is almost as free-trading as England in regard to breadstuffs, and yet it has been officially shown that the average price of wheat at Verviers[1] was 48s. per quarter in 1841–50, and 88s. 6d. in 1871, while in the United Kingdom, for the same dates, the prices were 59s. and 54s. 2d. Again, potatoes per 100 kilos. (2 cwts.) cost at Verviers 5s. 5d. in 1841–50, and 8s. 11½d. in 1871, while in the United Kingdom the corresponding prices have been considerably lower.

In these figures we see a tendency which will be found to pervade every detail that is available as to the course of prices on the Continent. Within the last half-century

[1] Report of the Verviers Chamber of Commerce for 1872, quoted by Mr. A. Redgrave in his pamphlet on "Labour, Wages, Production, &c., in France and Belgium," 1873.

the cost of living has generally been increased abroad concurrently with the reductions already shown at home. The movement is, indeed, much older even than that. If we compare the prices of corn for England and Continental countries, respectively, over a century or thereabouts, we shall find that for the first half of that period the Continental rates were much lower than the English, but over the second half of the term the difference was by no means so much against England, and in some years it has been actually in her favour.[1] It is not at all probable that on an average the cost of breadstuffs in France for the latter half of the present century was much under that of England, seeing that up to quite a recent period France imported considerable quantities of wheat from England.[2]

One of the most signal examples of the great rise in the cost of living on the Continent, to which reference has just been made, is contained in the "Reports on the Industrial Condition of the Working Classes in Foreign Countries," issued by Parliament in 1872. It is there stated that the average cost of food and lodging to the operatives employed at Hürlimann's spinning mills, in the Canton of Zurich, rose from 4½d. per day in 1835 to 9½d.

[1] The following return of the prices of wheat in England and Germany (Dantzic), respectively, illustrates this tendency:—

| Year. | Price of Wheat per Quarter. | |
|---|---|---|
| | England. | Germany. |
| | *s.* *d.* | *s.* *d.* |
| 1760 | 32 4 | 19 6 |
| 1780 | 36 7 | 25 3 |
| 1800 | 113 0 | 66 0 |
| 1820 | 67 8 | 40 0 |
| 1840 | 66 3 | 60 0 |

[2] In 1867, the imports of wheat into France from the U were valued at over 12 millions of francs.

per day in 1871, being an increase of about 110 per cent.[1]

There is, on the whole, some reason to believe that the differences as between English and Continental wages are so much clear gain to our own country. Lord Brabazon, as the result of a very elaborate inquiry into the condition of labour and the cost of living in France, came to the conclusion that "the real difference between the purchase-power of money in France and England is inappreciable."[2] It is not, therefore, to be supposed that the populations of the two countries cultivate the same tastes and habits in reference to their food and lodging. France, and indeed the Continent of Europe as a whole, have always been less fastidious and more economical in habits of living than our own country. This is clearly set forth in all the authentic literature that has ever been published on the subject since 1713, when a pamphlet on the commercial relations of France and England stated that "the common people (in France) live upon roots, cabbage, and other herbage; four of their large provinces subsist entirely upon chestnuts, and the best of them eat bread made of barley, millet, Turkey and black corn."[3] The cost of food has been augmented on the Continent, partly in consequence of the limitations placed upon imports, and partly in consequence of the increased *octroi* duties. The latter alone rose in France from an average of 18¾ francs in 1867 to one of 24½ francs per head in 1880. Even so, however, if we restrict our observations to the country districts pure and simple, the average cost of the necessaries of life in France will be appreciably under that of our own country. It is probable that Lord Brabazon made his generalisation on what he knew of Paris, and other large towns.

[1] It has been stated elsewhere that over the same period wages were increased in the same locality by 122 per cent.

[2] "Reports on the Condition of the Industrial Classes," &c., 1872, p. 102.

[3] "General Maxims in Trade, particularly applied to the Commerce between Great Britain and France."

In Italy, the prices of necessary commodities generally take a rather lower range than in France and Germany. But the condition of the people is so poverty-stricken that this difference is not really of much value to them, for they are only able to command the coarsest and cheapest food. The Royal Commissioners on Technical Instruction give us an insight into the kind of food that is generally partaken of by factory operatives in that country. On visiting some silk factories in the north of Italy, they found the operatives partaking, at intervals of work, of their evening meal, which, in many cases, consisted of black bread, without any butter, savoured with garlic radishes, a little salt, and small turnips. A common dish was bread sopped in warm water with a pinch of salt. Polenta, a species of stiff, cold pudding, made from Indian meal, was being eaten by many, and some were boiling potatoes, in the cocoon water, and eating them. "Rye bread and polenta," they add, "are the staff of life among the Italian peasantry, and every girl seemed to have a crust before her."

Having now briefly glanced at the conditions of living in Continental Europe, we may take leave to refer to two sets of circumstances which differentiate European from other countries—the first being those of our Indian fellow-subjects, who purchase their commodities generally at a very trifling nominal cost; the second that of districts or countries where temporary causes have enormously enhanced the cost of all the items that enter into calculations of this kind.

The causes that create a comparative scarcity or a rise in the prices of bread-stuffs are often complex and esoteric. In a general way, this tendency is ascribed, and perhaps correctly, to a rise in the cost of labour, although it is to be remarked that many cases could be quoted where a higher-priced labour was more than compensated for by increased efficiency, induced by the introduction of improved machinery and systems of working. But in India the phenomena of prices have not followed the laws that

are usually supposed to govern the cost of commodities, for the cost of labour has remained much the same over a series of years, during which the cost of food staples has increased. The cost of rice is stated to have doubled between 1814 and 1874;[1] and between 1848 and 1875 the cost of the average monthly consumption of food by a Sepoy rose from 2½ to 5½ rupees (5s. to 11s.), or more than 100 per cent. No adequate reason appears to be assigned for this enormous difference; but the increased cost of the land, the rent of which has in many districts more than doubled, has no doubt something to do with it.

A Mahometan writer recently produced a book,[2] in which he contrasts the condition of the agricultural labourer in England with that of his congener in India. He shows that in this country it cost a labourer, to procure enough to pay for a bushel of wheat,

| | | |
|---|---|---|
| 5 | days labour in | 1770, |
| 4 | ,, | 1843, |
| 2½ | ,, | 1870,[3] |

whereas in India the daily wage of the agricultural labourer is often 1¼d., and his food is ½ lb. of parched grain as breakfast at noon, and 2 lbs. of millet meal girdle cakes, with a little pulse or green vegetables or wild herbs at night. It is clear, therefore, that in spite of the extremely low cost of commodities generally, the Indian ryot is unable to take advantage of them except to a very limited extent.

Throughout all Asiatic countries it will be found that the same rule holds good, namely, that the cost of food is much less, and the cost of other commodities much higher than in Europe. Thus, it appears that at Ichang, in China, fowls can be bought for fourpence each, but ordinary iron costs ten guineas per ton; wheat costs 5s. 2d. per cwt., but coal costs about 30s. per ton; eggs cost 13s. 9d. per 1000,

[1] Returns prepared by the Madras Board of Revenue for the Famine Commission.

[2] "Our Difficulties and our Wants in India."

[3] Since 1870 the average price of wheat has been such as to allow a bushel to be purchased by two days' average labour.

but bricks are only to be bought at 35s. 9d. for the same number. And so on all through the series. Commodities that require the mechanical aids and industrial processes known to Western civilisation for their economical production are greatly more expensive than those produced on the spot.

Although, speaking generally, it is the case that where wages are high, so also is the cost of living, there are exceptions to this rule. Labour is like capital, in respect that it is more or less repelled from occupations and districts that yield less than an average return, and attracted towards those where the remuneration is above the average. This general principle is, of course, qualified by many disturbing considerations which limit its universal application, otherwise the Indian ryot and the Russian serf —not to speak of the Italian metayer and the Hungarian peasant—would be likely to flood with their cheaper labour the countries in which industry receives a higher rate of remuneration than in their own. The reasons why this event fails to occur are as varied and mixed as human motives and circumstances generally are. Attachment to soil and kindred, want of the necessary means to emigrate, ignorance of other languages than their own, and the absence of the knowledge of how and where to better themselves, are a few of the most obvious causes that detract from the more general application of the principle just laid down.

But it by no means follows that those who carry out to the fullest extent the principle of selling their labour in the dearest market are taking the steps most calculated to improve their position. They bring their labour to the market where the necessaries of life are usually dearer, so that their gain, on striking a balance, may be almost *nil*. This has been largely the experience of those who have left the factory and the farm to dig for Australian gold and search for Cape diamonds. It is the experience, at the present day, of those who are employed at the gold mines of Venezuela. A recent Consular Report states, that at the El Callao mines, in that country, miners earn

13s. 4d.; labourers, 10s.; pitmen, 20s.; machinists, 15s.; fitters, 20s.; masons, 15s.; and timbermen, 17s. 6d. per day. These are rates of wages quite unknown in Europe; and if the daily remuneration were alone to be regarded, they would offer strong inducements to those who supply such labour in almost all other parts of the world. But what of the other side of the account? On the same authority it is stated that the cost of bread at the mines was 1s. 6d. per lb.; of butter, 3s. 4d. to 5s.; of eggs, per dozen, 5s.; of hens, 10s. to 12s. 6d.; of tea, 18s. to 20s. per lb.; of salt, 1s. 3d. per lb.; of milk, per pint, 1s. 5d.; and of flour, per barrel of 200 lbs., 168s. to 200s.[1] As to lodgings, a small room is said to cost from £3, 10s. to £5 per month; while fuel costs about 40s. per cord of 28 cwt. If these extraordinary prices are compared with the rates of wages, and both are collated with the wages and prices paid in European countries, it may possibly be found that those who have the higher earnings are the worse off. In other words, the distinction between *nominal* and *real* wages ought never to be lost sight of.

In connection with the distinction to which we have just called attention, it now behoves us to inquire how far the greater cheapness and abundance of commodities generally are reflected in the returns which exhibit their *per capita* consumption in different countries. This is perhaps the most difficult and thorny part of the whole inquiry. Wages are obviously only relatively high when they go a long way in purchasing the necessaries, and, to a certain extent, the luxuries of life. But even when we have proved that wages are high in this, the only true sense, and that they are capable of purchasing relatively more than the earnings with which they are compared, we have not proved everything. It is quite conceivable that such high wages may not be employed in such a way as to take advantage of their superior purchasing power. Either they may be expended in wrong directions, or they may be hoarded, as they generally are in France, so that

[1] Commercial Reports, No. 38, 1884, p. 147.

their due effects are not by any means fully realised. But subject to rare exceptions of this kind, it will usually be found that the higher the real rate of wages, the higher the standard of living—that a relatively superior purchasing power of wages is reflected in the relatively superior dietary and scale of living of the countries that enjoy it.

The exact extent of this relative superiority is, however, by no means a simple matter to fix. Many different factors are necessary to the complete solution of the problem. It is a sufficiently difficult subject to determine what is the approximate average consumption per head of the population in any country of the bread-stuffs grown in that country; but when the problem is complicated by import and export returns, the difficulty is increased. There are, however, two methods whereby it is possible to estimate, perhaps with sufficient nearness, the consumption of the principal articles of food in the principal European countries—the first, that of comparing and averaging the imports of such commodities at different periods; the second, that of the *octroi* returns. The former system is specially applicable to the United Kingdom; the second, to the principal cities of France. We may, therefore, briefly compare the circumstances of these two countries, so far as the *data* at command will permit.

And first with regard to the "staff of life." A recent calculation has shown that the average price of wheat in the United Kingdom, for the 129 years ending 1884, was 55s. 2d.; that the average for the twenty-nine years prior to the repeal of the Corn Laws was 66s. 4d.; and that the average price since that Act took effect has been 46s., or 20s. 4d. less than the average of the previous twenty years.

This remarkable reduction has been accompanied by the universal use of wheaten bread as the food of the people, who had previously used coarser and cheaper staples. In 1840, the average consumption of imported corn, wheat, and wheat-flour per head of the population was only 42.47 lbs.; in 1860, it was 118.86 lbs.; and in 1883, it was 250.77 lbs.

The same movement has been apparent in every other

direction. The total imports into the United Kingdom of live animals, meat, and vegetables, and grain and flour together, averaged 25s. 7d. per head of the population in 1864; 51s. 2d. in 1874; and 70s. in 1884. It does not, of course, necessarily follow that the population as a whole has been better fed, but that it has been fed more cheaply is proved by the very fact of the imports having taken place; and that it has also been better fed is an assumption fully warranted by the course of prices, and the larger business thereby induced. With regard to butcher meat, the returns are not so satisfactory as could be desired. We know from the Board of Trade returns that, as between 1840 and 1880, the imports of bacon and ham increased from 0.1 to 15.96 lbs. per head, but of the home production we are not so well informed. Perhaps a good index of the consumption of meat throughout the country may be supplied by the returns of the metropolitan consumption of beef and mutton, which, for the six years ending 1883, averaged within a fraction of 70 lbs. per head of the whole population—a figure which almost corresponds to 140 lbs. per head over 12 years of age.

The quantity of flesh meat of all kinds produced in the United Kingdom has been calculated by Mr. James Caird at 24,500,000 cwt., and when to this sum is added 6,300,000 cwt. of foreign growth, the total consumption of meat in the country comes out as 30,800,000 cwts. This figure would represent a consumption of about ¼lb. per head of the population of the whole country, or a nett expenditure of 1.55d. per head per day, assuming an average retail price of 7½d. per lb., which is the average ascertained for the metropolitan meat supply over a recent year.[1]

Besides the consumption of butcher's meat, however, there is that of the "harvest of the sea," which is also very important. In 1879 alone, 135,000 tons of fish were brought into London, which gave an average annual

[1] "British Association Report on the Present Appropriation of Wages," &c. 1881.

consumption of 90 lbs. per head.[1] Professor Leoni Levi has calculated the total consumption of fish throughout the country at 700 million lbs., whence it follows that the average consumption per person per annum would be about 20 lbs.[2]

It is, however, in articles of luxury that the greater purchasing power of the earnings of the English people is chiefly reflected. Between 1840 and 1880, the imports of tea per head of the population rose from 1.22 lbs. to 4.59 lbs.; of currants and raisins, from 1.45 to 3.94 lbs.; of cocoa, from 0.08 to 0·31 lbs.; of rice, from 0.90 to 14·14 lbs.; of tobacco, from 0.86 to 1.43 lbs.; and of wine, from 0.25 to 0.46 lbs. These are all articles that must be imported, and about the consumption of which, therefore, there can be no serious mistake.

The improved style of living which these figures indicate is not limited to the United Kingdom; the higher scale of wages generally paid throughout Europe has allowed of a generally better diet being indulged in. The following official statement, based on *octroi* returns, show how far this movement has proceeded in the chief towns of France.[3]

| Town. | Consumption per Head of Population of | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Bread. | | Fresh Meat. | | Wine. | | Alcohol. | |
| | 1865. | 1880. | 1865. | 1880. | 1865. | 1880. | 1865. | 1880. |
| | Kilogs. | Kilogs. | Kilogs. | Kilogs. | Litres. | Litres. | Litres. | Litres. |
| Paris . . . | 153 | 152 | 67 | 84 | 196 | 212 | 5.8 | 6.6 |
| Lyons . . . | 180 | 159 | 67 | 73 | 219 | 212 | 2.5 | 3.8 |
| Marseilles . | 217 | 244 | 52 | 69 | 174 | 179 | 1.9 | 4.4 |
| Bordeaux . | 190 | 168 | 61 | 81 | 215 | 209 | 2.1 | 2.8 |
| Lille . . . | 240 | 227 | 52 | 53 | 23 | 26 | 5.9 | 5.7 |
| Nantes . . | 273 | 271 | 45 | 50 | 178 | 124 | 2.0 | 4.2 |

[1] Report of Mr. Spencer Walpole to the Secretary of State.

[2] At 5d. per lb. retail this would represent an average expenditure of 0.23d. per head of the whole population.

[3] From the official French *Annuarie* for 1882.

It is quite evident from these figures that the French people have adopted a more luxurious system of dietary during the interval under consideration, but whether this fact is due to their increased ability to purchase the commodities tabulated, or to their having expended a greater part of their earnings for this purpose, may be a moot point. In every case there is a larger average consumption of butcher meat in the later year, culminating in an increase of not less than 33 per cent. in Bordeaux. Perhaps, however, the most striking feature of the table is the increased consumption of alcohol, which, on an average of all the six towns, was nearly 40 per cent. higher in 1880 than it was fifteen years before.

It needs not that we should pursue this inquiry much further. If we did, we should only find the same tendencies and results, at any rate in reference to all nations that are to any extent progressive. In newer countries, such as the United States of America, Canada, and Australia, a very much smaller proportion of the food consumed is brought to the market, and it is not easy to fix either the current values or the quantities of the commodities consumed on the spot where they are grown; but the condition of American and Australian agriculture generally permits of low prices and abundant supplies. For this reason, the people who inhabit these countries are beyond all question the best fed in the world, considered as a whole.[1] There are, however, many commodities of diet that are to be purchased by the English artisan more cheaply even than by the American agriculturist, and if the balance could be fairly struck, it is more than probable that in the mere matter of *food as a whole*, there is not much difference between them.[1]

[1] Mr. Mulhall has calculated that the average cost of food per inhabitant, including liquors, is £13, 9s. in the United Kingdom, and £11, 2s. in the United States, but he assumes a much larger consumption of costly wines, &c., in the former country. In respect to the four chief articles of diet—grain, meat, butter, and sugar—his estimate is £7, 2s. for the United Kingdom, and £6, 6s. for the United States.

## CHAPTER XVI.

### *TAXATION.*

SYDNEY SMITH was accustomed to say that nothing was certain except death and taxes. There can be little doubt that the tendency of modern legislation has been to enormously increase the taxation of all civilised countries. In so far as this increase of taxation is entailed by sanitary or educational improvements, by works of national importance—such as railways, telegraphs, canals, and irrigation—or by any measures that are calculated in their results to be or to become conducive to the health, well-being, and convenience of the population as a whole, it is, so to speak, reproductive, and therefore not a matter for regret. But it is, unfortunately, only too true that the burdens which modern nations are called upon to bear are incurred less for or by these purposes than as a consequence of devastating wars, the heritage of envy, folly, aggressiveness, and pride. In respect of the possession of this heritage, all European countries are alike, but they differ greatly in respect of the amount of their burdens, both absolutely and relatively, to their ability to bear them.

The subject of the increase of national debts is one that is likely to have a good deal of influence upon the future of industrial nations, not only as affecting their taxation, but also in so far as it is likely to interfere with their credit. For it is obvious that if, in consequence of fiscal burdens exceeding the probable capabilities of a nation to

meet its engagements, a higher rate of interest has to be paid for money than would otherwise be necessary, that nation is placed at a great disadvantage in comparison with a nation that can procure money on much easier terms. All other things being equal, the balance will always be in favour of the nation that can borrow money cheaply. So fully, indeed, is this recognised that a distinguished American statesman is credited with the remark that he envied England her cheap money more even than her cheap labour, and that the former was a greater hindrance to the success of American competition even than the latter.

The increase of the national debts of the world during the last thirty years has been almost appalling, and nothing in the history of the nineteenth century is more calculated to make the judicious grieve. In 1848, the total amount of the national debts of the seventeen leading countries of the world, embracing all the nations of Europe and the United States and Canada, amounted to a total of 1525 millions sterling, of which amount more than one-half was represented by the national debt of this country. In 1880, the same countries had a total debt of 4657 millions sterling, of which the debt of the United Kingdom formed only 16 per cent. In the interval, the national debt of the United States increased, in consequence of the civil war, from only 8½ millions to over 500 millions; that of France, mainly in consequence of the Franco-German war, from 177 to 766 millions; that of Russia, by reason mainly of the Turkish war, from 97 to 664 millions; that of Italy, from 29 to 508 millions; and that of Spain, from 110 to 516 millions. These, and a number of minor States, have enormously increased their liabilities during this interval. We do not now speak of the results of this expenditure upon the stability and character of the nations that have incurred it. That is a matter quite outside the pale of our present purpose. It may be that in some cases—

as in that of the American war, which was followed as its direct result by the abolition of negro slavery—the expenditure has not been without compensation. But we are now only concerned with fiscal burdens *considered as such*, and with the relative capabilities to bear them of the nations by whom they have been incurred.

There is nothing more remarkable in the history of nations than their varying elasticity of resources. The national debt of England, great though it be, and involving an annual outlay of nearly 20s. per head for each man, woman, and child in the country over the last half-century, has not been found to press with such intolerable severity upon the people as if she had been a poorer nation. The national debts of some other countries, on the contrary, hang like millstones round their necks, and press them to the very earth. The most remarkable example of national recuperative force is supplied by the case of the United States, the debt of which increased, between 1860 and 1870, by not less than 3725 per cent.! During the next decade the debt had been reduced by 360 million dollars, or 14.5 per cent., and at its present rate of extinction it is likely to be altogether wiped out within a very few years. France, again, which increased her debt in the decade 1870–80 by 332 per cent., proved the possession of remarkable vitality of resource in the readiness with which she paid the five milliards exacted by Germany as the penalty of her defeat. In both of these countries, the fiscal superiority over England, enjoyed before their enormous debts were contracted, has been minimised by their being so burdened. In other words, the relative position of England has been greatly improved during the period 1850–80, not only by the great increase in the debts of rival nations, but by the absolute decrease of her own burdens, which were diminished in that interval by rather over 7 per cent. It may be added that England is the only European state, the debt of which has been reduced

during the last quarter of a century, except the German empire,[1] Holland, and Denmark.

The facts which have just been stated point unmistakeably to the conclusion that the loss of financial credit and political consideration which an enormous burden of debt must always more or less entail, has of late years been lessened in the case of England, and increased in the case of nearly all rival states. This loss will be more or less in the future, according as the nations that have plunged so recklessly and so largely into the slough of fiscal distress evince a capacity and a tendency to retrieve their position or to make it still more irretrievable. The former tendency has long been observed in the United Kingdom, the annual budgets of which have very seldom shown a deficit, and the capacity of which to meet its engagements is beyond all question. Italy and Austria, and to a less extent Russia, furnish examples of a contrary tendency, persisting as they do in a course of over-expenditure, in spite of annual deficits. It is much the same, although in a much more limited degree with France, which is keeping up, and even increasing, her war establishment, while bearing a burden of debt greater than that of any other nation—not even excepting our own. There are those who fear that her war budgets may ultimately result in dragging France down to the financial level of Austria, if not to that of Italy. In this respect France furnishes a striking contrast to England. After the battle of Waterloo, England had a debt practically of the same amount as that of France after Sedan—viz., about 900 millions sterling. But between 1817 and 1850, the total annual expenditure of England never exceeded 52 millions, and of this amount the charge on the debt was at the outset more than 32 millions, or over 60 per cent. of the whole; while France, after similar financial disaster,

[1] Speaking of the German empire as a whole, and not of the different states which compose it.

continues to maintain an annual expenditure of *over a hundred millions* sterling.

England's danger now is, to quote the words of Dudley Baxter, that "we shall not reduce our debt with sufficient rapidity during the period of prosperity, and that we shall have to face on unequal terms, with exhausted coal and unexhausted debt, the competition of the immense mineral resources, and population, and energy, of the future development of the United States." That this is a real danger is proved by many striking facts and considerations—by the rapid exhaustion of our mineral resources, by the increased competition of foreign nations, by the enormous growth of manufactures in foreign countries, and especially in our colonies—which bear no part of our burden, although it was largely undertaken on their behalf—and the United States; by the limited surplus generally available for the liquidation of our debt; and by the strong disinclination evinced by all our statesmen to face the unpopularity of proposals made with a view to its more rapid extinction. The average annual rate of such extinction of our debt during the last thirty years has been under a million and a half sterling. The rate of decrement has been far from uniform. Between 1848 and 1860, it was 2.4 per cent.; between 1860 and 1870, it was 0.25 per cent.; and from 1870 to 1880 —the most prosperous period, at any rate as regards the first half of it, that British commerce has ever known— it was only 3 per cent. If we take an average of the whole period, it would require more than 500 years, at the same rate, to free us of our liabilities. Where will England then be in the race for supremacy? Will her greatness have been overshadowed, as her population and resources will most certainly be, by that of her colonies and the United States? Will her coal-fields have become depleted, her industries attenuated, her commerce a shadow of its former self? There is nothing so certain as the uncertainty that envelops the future, but having

regard to the progress made by other countries in all the necessary elements of wealth and power, it appears reasonable to suppose that England will never be in a better position to get clear of this incubus than she is to-day; and the question for the present generation is whether, in regard to the extinction of our debt, as in regard to the exhaustion of our coal-fields, posterity will be left to look after itself, or whether succeeding generations will inherit the same chance that has happily been given to us, to maintain with undiminished lustre the incomparable inheritance of power, wealth, and renown transmitted from the past.

Enough has been said to make it clear that the condition of the population of Europe, with regard to its taxation, is truly grievous, and, so far from getting better, seems to become radically worse. The total sum raised for revenue purposes by all the States of Europe now amounts to the enormous sum of 699½ millions sterling, being an average of £2, 15s. per head. Great Britain is no better, but she is not perhaps much worse, than the average of the Continent on which she is placed. The revenue annually raised in this country for imperial purposes is about £2, 5s. per head. Nor does the huge burden of taxation represented by these figures meet all the requirements of the nations to which they apply. There is generally a deficiency, that for 1883 having been about twelve millions sterling over the whole of Europe. Of the annual expenditure of Europe, not less than 197 millions sterling, or 27½ per cent. of the whole, is applied to the reduction of national debts.[1] Nearly as much again is applied to the maintenance of standing armies. For this purpose, 171 millions sterling, or 24 per cent. of the whole expenditure incurred, was spent by Europe in 1883 in maintaining a

[1] It must not be overlooked, however, that these debts have been incurred to a certain extent for useful and productive purposes, as in the case of the railway systems of Belgium and Germany.

total force of 19,355,000 soldiers in standing armies and reserves.

According to statistics published in the *National Reform Almanack*, more than 341 millions of the total revenue of 699½ millions of pounds raised annually by European States is obtained from indirect taxes, and mainly from customs duties. Great Britain and Germany raise about the same amount annually in this way, viz. 47 millions; Russia raises 16 millions more still; and France raises 27 millions more even than Russia.

It is a favourite process with some statists, to deduce the comparative poverty or wealth of a country, so far as taxation enters into the problem, by showing the amount of taxes raised per head of the population. But this is an altogether fallacious method of making such an estimation, although, on the first blush, it seems to offer a short cut to the desired result.

In considering the fiscal burdens that a nation is called upon to bear, regard must be had, not only to the absolute amount and the proportion per head of the population, but to the relative capability of the people to bear them. If we compare the taxation of England and Italy we shall at once appreciate the great importance of this consideration. In England the taxation per head of the population ranges from £2, 5s. to £2, 18s., while the corresponding amount levied on the Italian nation is £2, 10s. per head. But it has been estimated that the taxation of the Italian people is 35 per cent. of their total income, against a doubtful 10 per cent. of the income of the people of this country.[1] This almost incredible statement of the incidence of taxation in Italy is borne out by a memorial which the Italian landowners recently addressed to their own Government, and in which they say—

[1] These figures are based upon the assumption that the total annual income of the United Kingdom is a thousand millions sterling, while that of Italy is only 200 millions.

"The average taxation on land throughout Italy amounts to 30 per cent. on the returns actually got from the property. In some provinces—in Lombardy, for instance—it rises to 40 or even 45 per cent., and in parts of Cremona to as much as 60 per cent., without counting mortgages or costs of registration, which have to be paid when the property changes hands."

It is not necessary to observe, on these facts, that they indicate a condition of things from which England, notwithstanding the enormous incubus entailed upon her by the Napoleonic wars, is happily free.

Another consideration that has an important bearing upon the effect of taxation upon a community is the manner of its incidence and imposition. This is a very wide subject, and, to do justice to its importance, would involve an analysis of many general results into their component particulars. One country evinces a preference for direct, and another for indirect taxation. One levies a heavy income-tax, and another will not suffer any such burden to be imposed. Italy furnishes a notable example of the full force of the former; the United States are an equally striking instance of the latter system. In Italy, if a person is entitled to only £100 per annum from the public funds, £13, 4s. of that amount is deducted for income-tax. If his £100 proceeds from the profits of trade, he has to pay £9, 15s. If it comes in the form of salary, he is mulcted of £8, 5s. In the United States no taxation is levied in this manner, but the people have to bear their burdens in a way that many economists regard as equally inequitable and open to censure. No less than 56 per cent. of the whole revenue of the United States is, or was in 1880, raised by customs' duties. Less than 6 per cent. of the whole revenue of Italy is raised in that way. The effect, or more properly the penalty, of raising such a large proportion of the national revenue of the United States from customs, has been ascertained to be that the average rate of duty paid

on the dutiable articles imported into that country in recent years has been 42¾ per cent. This average has been not unfairly regarded as the measure of the difference between the prices which the population of the United States now pay for what they consume of manufactured commodities and those which they would pay were foreign commodities admitted duty free. In other words, according to this view of the case, the purchasing power of money in the United States, as regards manufactured goods, is reduced by nearly one-half, in consequence of the system of customs' duties pursued in that country, not for revenue only, but ostensibly for the protection of native industry.

The canons which govern the incidence of taxation in the United Kingdom may be regarded as more equitable than in either of the cases just considered. An income-tax is levied, but levied in such a way as not to press upon small incomes with undue harshness. On an income of £300 a year, the taxation, until the rate was recently raised for temporary exigencies, was only £1, 16s. 8d., as against the £24, 5s. that would have to be paid in Italy. We raise 22 per cent. of our revenue by customs' duties, but the duties are raised exclusively for revenue purposes, and in strict conformity with Adam Smith's third rule, that "taxes should be levied at the time, and in the mode, which causes the least inconvenience to the tax-payer." We have all but realised the further principle of the same great economist, that "when there is equality of taxation, people are taxed in proportion to their ability to pay." The working man, who possesses the minimum of ability to pay, now enjoys almost entire immunity from imperial taxation. He is relieved from house-duty, from taxes upon food, from taxes upon income, and from taxes upon almost all necessary commodities, while, unlike the less highly remunerated population of France and Italy, he is never called upon to pay municipal taxes in the form of *octroi*.

The principles upon which taxation is levied in Great Britain are as different to those that obtain in most other countries as a good government is different from a bad, or as virtue is remote from vice. In barbarous or only semi-civilised countries, taxes are levied without any regard to the equity or fairness of incidence. A striking example of this fact, and of the brutality and cruelty of the systems so practised in Egypt and the Soudan, was recently given by Mr. Power.[1]

But the inequality of taxation, as between the means of different classes to bear it, is illustrated in the experience of countries that make much greater pretensions to

[1] "The Soudani and the Arabs," says Mr. Power, "are splendid fellows; ground down and robbed by every ruffian who has money enough (ill-gotten) to buy himself a position of Pasha, or free licence to rob, they are quite right to rebel and hurl the nest of robbers to the other side of Siout. For years it has been 'kourbash, kourbash, et toujours kourbash.' This gets monotonous, and the poor devils rebel. I will, indeed, forgive the fellow who puts his lance into me, if that is to be my fate, because I will feel that he is right as long as I am of the same colour as the scoundrels who have robbed him and his for so many years. How is the government of the country carried on? It is only the plains along the banks of the Nile which are cultivated. Every Arab must pay a tax for himself, children, and wife, or wives. This he has to pay three times over—once for the Kedowi, once for the tax-collector or local Beys, and once for the Governor-General. The last two are illegal, but still scrupulously collected to the piastre. To pay this he must grow some corn, and for the privilege of growing corn he must pay £3 per annum. To grow corn the desert earth must have water; the means of irrigation is a 'sakeh,' a wheel like a mill-wheel with buckets on it, which raise the water into a trough, and then it flows in little streams over the land. A sakeh is turned by two oxen. Every man who uses a sakeh must pay £7; if he doesn't use it, he must go into prison for life, and have his hut burned. Every one must pay for the right of working to earn money; every one must pay if he is idle; in any case, every one must pay to make the officials rich. If you have a merkeb, or trading boat, you are fined £4 if you don't continually fly the Egyptian flag, and you must pay £4 for the privilege of flying it. It is this system, and not the Mahdi, that has brought about this rebellion. The rebels are in the right, and God and chance seem to be fighting for them, and, as long as I live to see you once more, I hope they will hunt every Egyptian neck and crop out of the Soudan. Better a thousand times the barbarities of slavery than the detestable barbarities and crimes of the Egyptian rulers."

enlightenment than Egypt. Here is what a recent Consular report states in reference to the incidence of fiscal burdens in Russia :—

"Capital in Russia is virtually free from taxation, probably owing to its comparative rarity and to the expense involved in its collection. Whilst the upper class pay little, the peasant class is heavily taxed. The land-tax falls more heavily on the peasant than on the noble, because the latter obtains an abatement on waste lands, whilst peasant land is wholly arable. In addition to this tax, the peasants have to pay about 6 roubles per desiatine for redemption annuities, besides poll-tax, taxes to the Zemstvo, and other local rates. Moreover, no peasant can travel 30 miles beyond his own commune without irksome formalities and the payment of from 7*s.* to 10*s.* for a passport."

We are also told that "under the communal system, taxes are levied on the village, not on the individual. The drunken and the improvident know that their hard-working neighbour will have to pay for them; and again, owing to the frequent redistribution of land, no peasant cares to take special pains with his own temporary lot. The poll-tax has already been permanently diminished by £1,500,000."

It is most instructive to compare the condition of things just stated with that which obtains in our own country, where the whole tendency of recent legislation, as already indicated, has been to place fiscal burdens upon those most competent to bear them, or, in other words, upon the propertied classes.

Assuming the working classes to number about 70 per cent. of the whole population, and the middle and higher classes 30 per cent., Professor Levi has calculated that the incidence of taxation, as affecting each, in 1842, 1862, and 1882, may be taken to be as under (£1 = 1000):—

*Incidence of Taxation at different Dates.*

| Years. | Middle and Upper Classes. | Working Classes. | Total Taxation. |
|---|---|---|---|
| 1842 . . | £24,200 | £26,000 | £50,200 |
| 1862 . . | 34,900 | 29,200 | 64,100 |
| 1882 . . | 39,500 | 31,800 | 71,300 |

Put in another way, the middle and higher classes contributed £3 per head in 1842, and £3, 6s. per head in 1882, to the taxation raised for imperial purposes, while the working classes contributed £1, 7s. 4d. per head in 1842, and £1, 5s. 11d. in 1882. From these facts, the Professor estimates that a working man's family had to pay, in 1842, £6, 3s., or 16 per cent. of their gross earnings, towards the public burdens, whereas in 1882 the same family would only be called upon to pay £5, 16s. or 7⅛ per cent. of their greatly increased earnings, which sum, again, would be largely diminished by abstention from alcoholic drinks and tobacco.

The same high authority has also compiled a table showing the variations that have taken place in the character of the taxation of the United Kingdom since 1842. The figures are summarised in the following statement:—

*Sources of Taxes at Different Dates.*

| Character of Taxes. | Percentage of Whole Taxation of Country in | | |
|---|---|---|---|
| | 1842. | 1862. | 1882. |
| On general comforts (tea, corn, &c.) | 31.47 | 22.39 | 6.90 |
| „ luxuries (spirits, tobacco, &c.) . | 36.05 | 38.73 | 52.75 |
| „ industries (paper, hops, &c.) . | 6.49 | 2.04 | 1.21 |
| „ transfer of property . . . | 14.55 | 13.40 | 16.13 |
| „ property (land, &c.) . . . | 8.67 | 3.24 | 3.86 |
| „ employments (licenses) . . | 2.77 | 4.03 | 5.06 |
| „ income . . . . . | ... | 16.17 | 14.09 |
| Totals . . . | 100.00 | 100.00 | 100.00 |

An examination of the working of the poor-relief systems of different countries is a necessary part of any inquiry into the condition of nations, and especially of the working classes. In our own country, we have but small reason to be satisfied with the history of our poor laws. From the passing of the Act 43rd of Elizabeth, to which, until very recently, we owed the provisions made for the compulsory maintenance of the poor, no system had been more abused. That Act gave to the overseers of the poor power to levy upon the inhabitants of their respective parishes "such sums as should be necessary to support the aged and infirm parishioners, and for setting to work all persons using no ordinary and daily trade of life to get their living by." Up to the time of George III. the amount expended for this purpose did not in any one year exceed a million sterling. In 1775, however, the amount had risen to over a million and a half; in 1832–33 to over 6½ millions; and from this time till 1850 it varied from 4 to 5 millions sterling per annum.

During a considerable part of the period that elapsed between the War of American Independence and the passing of the new Poor Law in 1833, there had grown up a vicious system of supplementing the wages of farm servants from the poor rates. Mr. Herbert Spencer has shown how the system worked in a parish of which his uncle was incumbent. The aid in relief of wages, known as "make wages," was mostly contributed by the farmers, and yet, since all other ratepayers contributed as well, the farmers seemed to gain by the arrangement, and were well content to let it stand.[1] But when the new Poor Law came into force, it resulted in reducing the rates in this single parish from £700 to £200 a year, the condition of the parish being at the same time greatly improved, so that out of a population of 800, only 15 had to be sent as incapable paupers to the union, in place

[1] *Contemporary Review*, April 1884.

of the 100 who received out-door relief a short time before.

The effect of the abuses of the poor laws that grew up in the manner already alluded to was to make England perhaps the most pauperised country in Europe. In 1801, the average expenditure for the relief of the poor in England and Wales was 9s. 1d. per head of the population; in 1811 it was 13s. 1d.; in 1821 it was 10s. 7d.; in 1831 9s. 9d.; and in 1841, after the new law had come into force, it had fallen to 6s. 2d. per head. Since that time the amount has fallen still lower, and in 1881 it was only 4s. 7d. per head of the population.

In the number of paupers in receipt of relief there has happily been a considerable diminution within recent years, and this decrease has been both an absolute and a relative one. In 1870 the total number of adult able-bodied paupers in England and Wales was 194,089; in 1880 it had fallen to 126,000; and in 1884 it had further decreased to 98,071.

England, however, although still occupying an unenviable position in respect of the large number in receipt of relief from public funds, is by no means peculiarly situated in this regard. The institution of poor laws is not confined to England. On the contrary, it is very many years since M. de Chateauvieux pointed out that "the existence of a tax in favour of the poor under one form or another may be recognised in almost every fully-peopled country."[1] In Norway, Sweden, Russia, Denmark, Mecklenburg, Prussia, Wurtemburg, Bavaria, and Switzerland, the poor are acknowledged to possess a legal claim to relief from the rest of the community.[2]

[1] *Recherches sur la Situation Comparative de Pauvre en France et en Angleterre.*

[2] Porter's "Progress of the Nation."

## CHAPTER XVII.

### *TRANSPORTATION FACILITIES.*

"Let India boast her palms, nor envy we
The weeping amber, nor the spicy tree,
While by our oaks those precious loads are borne,
And realms commanded which those trees adorn."—POPE.

UNDER the modern dispensation of commercial life, that country which has the greatest command of the means of economical transportation of commodities from one district to another, and from its own to other ports, is likely, all other things being equal, to have a decided advantage in the race for supremacy. It therefore becomes important to consider briefly how England compares with her rivals in this regard.

The means of internal communication are perhaps as ample and complete in England as in any other country in the world. With about 19,000 miles of railway to an area of 121,000 square miles, it follows that she has over one mile of railway to every six square miles of surface. Herein England compares very favourably with all other countries. In the United States, which is so nearly akin to the mother country in some other respects, the ratio is only one mile of railway to every 27 miles of area, notwithstanding the enormous development of the system that recent years have witnessed, and the fact that in America the railway system now extends to over 130,000 miles. In France, again, with an area of 204,000 square miles, and 17,000 miles of railway open, the ratio is 12 miles of area to 1 mile of railway; while in Prussia, where the area is 134,000 square miles, and the railway mileage about 13,000 miles, the ratio is only 10 miles of territory to

a single mile of railway. If we extend the comparison to other European countries, excepting only Belgium, where there is one mile of railway to every 4 miles of area, we shall find that the difference in favour of our own country is still more remarkable.

The railways of the United Kingdom, however, labour under the manifest disadvantage of being the most expensive of all. Their average cost up to the end of 1883 was over *forty-five thousand pounds* per mile, against only about 12½ thousand in the United States, 27 thousand in France, 21 thousand in Prussia, 25 thousand in Belgium, and 22 thousand in Austria. This means, of course, that for the same amount of traffic English railways would require to charge nearly double the rate of freight required to be charged in other countries, in order to pay the same rate of dividend.

Such, however, happily for English trade, is not an absolute necessity. The much heavier goods and mineral traffic carried over English railways, so far compensates for the disadvantages due to greater first cost of construction, that there is no reason why they should not carry quite as cheaply as the railways of other countries, and still leave an equally great, if not a much greater, profit on their working.

Whether English railways do carry as cheaply as the railways of other countries is a point which has been much debated, and one to which it is not easy to furnish a satisfactory reply. The question is complicated by short-distance clauses, terminal charges, and other considerations, which render a fair estimation of the average mileage rates difficult of ascertainment. But as the subject is one of vital importance to the trade and commerce of this country, and one, moreover, on which much uncertainty prevails, we shall offer the following remarks upon it.

The first thing that will be likely to strike the mind of any one that looks into the subject is the enormous

volume of goods and mineral traffic carried on English railways relatively to the mileage open, to the population, and to the area of the country. This, of course, is the result of our enormous industrial interests, and especially those of minerals, of which we raise about twice the quantity produced in any other country.

But although, as a consequence of the greater volume of our goods and mineral traffic, the receipts of English railways, per train mile run and per mile of line open, are greater than those of any other country, it is unfortunately the case that English traders do not enjoy, as they ought to do, the benefit of this difference. On the contrary, a very careful examination of the ton-mile rates in different countries made by the author for the British Iron Trade Association, proves unmistakeably that, for distances over 50 miles, the ton-mile rates charged on English railways are higher than those charged on the Continent or in the United States of America—the difference varying from 20 to 100 per cent.

If England were a very large, instead of a comparatively small country, this difference against her would probably seriously affect her industrial status, and hamper her in the race for commercial supremacy. As it is, however, the area of England is limited by comparison with that of most European countries, so that the higher railway rates do not, as a general rule, mean absolute ruin to her great industries, most of which are carried on within a short distance of the seaboard. In certain cases, however, as in that of trades carried on in the Midland counties, very considerable inconvenience has resulted from the excessive charges imposed for the transport of goods traffic. For this and other reasons the purchase and management of the railways by the State has often been advocated. In France, Belgium, and Germany State-controlled railways have generally been managed with efficiency and economy. This is, however, too large a question to discuss here; all that is

possible is to refer to it as one of the possible changes in the future.

*Steam Navigation.*—The progress of the merchant shipping of a modern country may generally be accepted as a test and measure of its commercial importance and development. It is true that there may be exceptions, within certain limits, to this rule. In a land-locked country like Switzerland, certain industries that do not necessarily involve any great amount of interchange of commodities, nor any exports or imports of material bulk, may be followed with marked success, as has for many years been the case with watchmaking. With a prolific soil, and a frugal and industrious population, it may also be possible to find a nation enjoying a considerable degree of contentment and prosperity without any foreign trade worth speaking of, as in some other parts of continental Europe. But that country is usually the most prosperous and progressive that has the largest dealings with the rest of the world.

It should not be forgotten, however, that even this rule is not always applicable alike to national circumstances. The United Kingdom, for example, could not exist for a day, without great disorganisation and panic, were it shut out from the receipt of commodities from the rest of the world. Imagine the suspension of our shipping trade for a few weeks, and what would happen? In the first place, our people would be reduced to the brink of starvation, for the wheat of the United States, the butter of Brittany and Normandy, the mutton and beef of Australia, are now absolutely necessary adjuncts of our food supplies Although the people of these islands could probably subsist for a certain time without importations of foreign stuffs, England does not now grow sufficient for her own requirements, and under such a condition of things as that supposed, famine would sooner or later be certain to supervene. But even this would

not be the most immediate disaster. For without the aid of the United States and India in supplying the raw cotton, jute, &c., our factories would soon be at rest; without the wool supplies of Australia our woollen mills would speedily suspend their busy hum; shut up the mines of Bilbao and many of our blast furnaces would be blown out; stop the supplies of Spanish pyrites, and our chemical works would no longer exhale their noisome odours; prohibit trade with Honduras and other distant possessions, and what would become of our cabinet factories? without esparto grass what would become of our paper-mills? and so with nearly every raw material used in the arts and manufactures, with the exception only of coal, tin, and, to a less degree, of iron ore and copper.

But it is different with some other countries, and more especially with the United States. Notwithstanding that the general and special imports of that nation now amount to over 297 million pounds sterling per annum, and the exports to 308 millions, making together a volume of trade equalling over 600 millions a year, it is possible to conceive of all this trade being stopped without the country being in a much worse position. For the United States are much in the position of many separate nations, trading one with another. Within their enormous borders, embracing 3½ million square miles of area, they grow and produce practically all that is required for their own consumption. They produce sufficient wheat, maize, cattle, and all kinds of food supplies to provision nearly double their own population. They grow cotton, wool, and the raw materials of other textiles, in much more than sufficient quantities to clothe their own people. They have the finest and most extensive coal-fields in the world; they find within their own soil the most ample supplies of all kinds of mineral and metallic wealth. It is, in short, scarcely possible to name a single commodity, as requisite for the use and convenience of man, that is not either actually produced, or capable of

being produced, within that vast and richly-endowed territory.

And yet, when we come to examine the trade and navigation returns of the United States, we find that in spite of all this profusion of indigenous resources there are few commodities that are not more or less imported by that country. Perhaps the most remarkable feature of the American import trade is found in the cotton industry. In 1883, England imported from that country raw cotton to the value of over 32 millions sterling, and returned thither cotton manufactures to the value of nearly 3½ millions. So that, even in regard to commodities in which she is pre-eminent, America does not entirely depend upon herself. It is found to be more to her advantage to import certain goods from this country, even when weighted with double freight and a considerable duty, than to produce them on her own soil. So it is with many other articles that might be named, not even excepting coal, of which 274,000 tons were imported —chiefly, no doubt, as ballast—into American ports in 1883. It is, indeed, absolutely necessary, in the modern economy of national intercourse, that there should be an interchange of commodities; and no country, however varied and exhaustless its resources, can be exempt from this law, if it is to profit by the diffusion of wealth and influence to which it so largely contributes.

There can hardly be a more profitable subject of study in view of what we have already stated, than that of the shipping resources of different countries, considered first with reference to their efficiency, and secondly, in reference to the aggregate volume of their commerce with the rest of the world.

With the total volume of its trade as one factor, and the extent of its steam commercial marine as the other the reader will be in a position to judge of the shipping resources relatively to the commercial importance of

each principal country dealt with. Hence the following table:—

*Steam Tonnage, and Trade of different Countries.*

| Country. | Value of Total Export and Import Trade in 1882. | Tonnage of Steam Vessels belonging to each Country. | Steam Tonnage per Million Pounds of Trade. |
|---|---|---|---|
| | Millions of Pounds. | (1=1000.) | Tons. |
| Germany | 813 | 251 | 309 |
| France | 764 | 311 | 407 |
| United States | 606 | 1354 | 2234 |
| Russia | 161 | 7 | 43 |
| Belgium | 333 | 70 | 210 |
| Italy | 199 | 93 | 467 |
| Austro-Hungary | 343 | 65 | 190 |
| Holland | 143 | 72 | 503 |
| United Kingdom | 960 | 3331 | 3470 |

The remarkable pre-eminence of the United Kingdom is shown very clearly by the foregoing figures. It is to be remarked, of course, that if we dealt with steam and sailing tonnage together, the conclusions brought out by such a comparison would be rather different, but it is now admitted on all hands that the carrying business of the world cannot be nearly so efficiently performed by sailing as by steam craft, and the race will always be to the nation that has the greatest number of steamers at command.[1]

We have seen, then, that if Great Britain has exceptional need of shipping resources for the supply of her food and her factories, she is exceptionally well provided with those resources which are, in fact, equal to those of all the rest of the world put together.

What is the cause of Britain's superiority in this respect? Is it due to the accident of her geographical position, to her greater command of wealth, to her superior skill in navigation, to the greater extent of her commerce,

[1] Mr. John Glover, a high authority on shipping, states that one ton of steam is equal to three tons of sailing tonnage.

or to all these and other causes combined? And is there any reason to suppose that the supremacy which we now possess may, in course of time, be wrested from us, to any material extent, by other nations?

Questions such as these are every now and again coming up for discussion, and sometimes the replies are such as to cause disquietude. We hear from time to time that bounties have been offered to shipbuilders in one country, that cheaper labour gives obvious advantages to another, that even English shipowners have found it to be to their advantage to give their orders to Holland or Germany, and many similar warnings of Cassandra.

It may be assumed, in a general way, that the country which has the best resources for the building of ships, will also, all other things being equal, enjoy the greatest facilities for being and remaining a ship-owning nation. But no one has hitherto seriously challenged the superiority of England in this regard. No other country can be described as the world's shipbuilder. Even in France, with her bounty system in full force, what has happened? Why, simply this, that the tonnage added to her merchant navy has diminished considerably from year to year during the last decade. It was over *sixty-three thousand tons* in 1870; it was only *forty-six thousand tons* in 1880. In Germany, the state of affairs has not been much better. Over a hundred and seven thousand tons were added to the merchant navy of that country in 1875; but the addition so made only amounted to 82 thousand tons in 1878, and to 92 thousand tons in 1880. Meanwhile, England has gone on her way, rejoicing in the fact that between 1870 and 1880, both years inclusive, she not only *added nearly two million tons* to her own merchant steam fleet, but increased the proportion of her shipbuilding trade done for foreigners from 51 thousand to 107 thousand tons per annum. These figures are official; their substantial accuracy may be depended on; and if they mean anything at all, they surely mean

that England, so far from having lost, has considerably improved her relative position during the interval under consideration.

The reasons that have enabled our own country thus to compete with all others do not quite lie on the surface. It is true that in the United States—the next most important shipowning country after England—the cost of labour is much higher; but it is otherwise in Germany, Holland, and France, and the cost of a ship is in one way or another almost entirely made up of labour. Again, it is true that iron is much dearer in the United States than in our own country, but timber, which is largely used in shipbuilding, is considerably cheaper; while on the Continent of Europe, and in Germany, Holland, and Belgium in particular, there is very little difference in the cost of the iron. English ship-plates, indeed, can be delivered in Holland and in other Continental ports as cheaply as in London. It would seem, therefore, that the supremacy of English shipbuilding is not due entirely either to cheap materials or to cheap labour; and if to neither of these elements of cost, to what is it to be attributed? The answer, as we have seen, is by no means obvious; but it is most probably to be found in the combination of technical skill with competent workmanship; and until these essentials can be furnished in other countries to the same extent, England's position in this regard is not likely greatly to suffer.

As with shipbuilding, so with ocean navigation, which is so important a part of the commercial business of this country. The only other country that has a mercantile marine approaching to our own is the United States; but while our steam fleet is almost three times the size of that of America, it is important to observe that only 154,000 tons, or about a ninth part of the whole steam tonnage of that country, is available for oversea traffic. The remainder is enrolled for the home trade only, in which English ships are prohibited from competing.

The effect of this absence of possible competition is seriously felt in the local freights paid on American waters. Not only do American-made ships cost much more than the same vessels would cost in England, but the wages paid to American sailors are also much higher. Let us for a moment compare the wages paid in the two countries, so that the extent of this difference may be fully appreciated. In the United States, according to the Census Report of 1880, the average wages paid to the 57,000 sailors employed on steamships plying on American waters was £95 per annum. In England, on the other hand, the average wages paid to able-bodied seamen in the same year was only £39.[1] Here, then, we have a difference of £56 a year, or 143 per cent. against the United States. Protected as American vessels are on their own waters, this enormous difference does not greatly, if at all, affect their home trade; but it renders it impossible for them to compete with English bottoms in the carrying trade of the rest of the world, and secures to us, at least so far as America is concerned, a practical monopoly of that trade.

It may now be worth while to inquire briefly what is the value to England of her carrying trade. Some very striking and valuable data on this subject is contained in a paper read by Mr. Giffen in 1880 before the Statistical Society,[2] to which the reader is referred for further details. Briefly, however, it may be stated that while the total earnings of the shipping trade of the world have been calculated at about 133 millions sterling, no less than 73 millions, or 55·2 per cent. of this amount, has been credited to the United Kingdom, against only 19·6 falling to the United States, 5·4 to France, and about 5·5 to Germany.

If we have succeeded in our aim, we have distinctly shown that one of the most essential elements in the supre-

[1] Board of Trade Returns on British Merchant Shipping.

[2] "On the Use of Import and Export Statistics."

macy of England is her enormous superiority in maritime affairs. A statement of England's carrying power and commerce must necessarily be made up largely of dry statistical facts, but statistics of the ordinary kind utterly fail to convey to the mind an adequate appreciation of England's enormous preponderance in maritime wealth and prestige. The carrying power of Great Britain on the sea between 1870 and 1880 increased by more than 7,000,000 tons, being exactly 60 per cent. of the total increase of carrying power in the world during that period. The total maritime carrying power of England in 1880 was 48 per cent. of the total carrying power of the world at that date. Put in another way, the carrying power of England per 1000 inhabitants increased from 310 tons in 1870 to 487 tons in 1880, being an increase of 177 tons; while that of France, in the same interval, only increased from 44 to 53 tons per 1000 inhabitants; that of Germany from 34 to 45 tons; that of Russia from 7 to 11½ tons; that of Austria from 12 to 14 tons; that of Italy from 37 to 46 tons; that of the United States (at sea only) from 64 to 47 tons.

Still another view may be taken of England's maritime greatness—that, namely, of her port entries, as compared with those of other countries. Between 1869 and 1879, the port entries of this country increased from 17 to 26 million tons, an increase of nine million tons. Within the same period the port entries of English colonies had increased from about 14 to 25 million tons, or about 11 millions in all. But no other country in the world comes near to these figures, unless it be the United States, which has shown a corresponding development to the exent of about eight million tons. Perhaps a more readily appreciable way of expressing the relative position of England in this regard would be to say, that of the total increase in the port entries of the world between 1870 and 1880, amounting to rather over 50 millions

of tons, about 20 millions of tons, or 40 per cent., belonged to the English Empire.

The disadvantages under which a country must necessarily labour in the absence of efficient means of transport is well illustrated by the case of the Chinese Empire, where railways are as yet all but unknown, and where river navigation is carried on by vessels that are far from equal to their duty. On the Yangtze, for instance, between Ichang and Hankow, a distance of 430 miles, there is a considerable and increasing trade, which is mostly carried on by boats that average nearly a month in the up, and about eight days in the down journey, while a steamer, steaming only eleven knots, could do the distance in three days, and thirty hours respectively. As it is, freights are very much higher than they should be. Cotton pays about 5s. 3d. per bale—about as much as it costs to transport a ton of iron ore from the north of Spain to English ports; while other goods cost about 30s. per ton up freight—the equivalent of the freight of at least three tons of wheat from New York to Liverpool. Passenger freights are equally high. European passengers pay £7, 10s. each way, but the natives, providing their own food and bedding, pay considerably less.

## CHAPTER XVIII.

### *EMIGRATION.*

It is a vexed and by no means simple problem how far emigration tends to advance the general prosperity of a country. Whether it is to be recommended or discouraged, whether it is to be regarded as a source of weakness, or as a means of acquiring greater strength, must depend upon the circumstances of the country whence emigration takes place. It is not unreasonable to suppose that a country, with an enormous colonial empire like Great Britain, may ultimately become all the stronger for a great wave of emigration, if it passes from the mother country to her dependencies. In such a case every emigrant goes to swell the increasing markets for English manufactures in another part of the world, and his requirements being on a larger scale in his new home, he may contribute more to the wealth of the mother country there than if he had remained within her fold. But on the other hand, emigration is likely to have a rather different result if it should tend towards a foreign country, which aims (as most foreign countries do) at excluding all English manufactures by hostile tariffs. In such a case, the emigrant almost inevitably moulds his opinions and his predilections in accordance with those of his adopted country, with which his future lot is to be bound up, and his interest and object thenceforward is to assist in fighting against the land of his birth, for it has been aptly contended that all hostile tariffs are acts of war.

Measured, then, by this test, it is highly important to discover whether England has gained or lost by the broad and steady stream of emigration that has within the last half century proceeded outwards from her ports. Since 1820, England (using that term in its largest signification) has had her population depleted to the extent of nearly five and a-half millions by emigration. The movement may, indeed, be said to have begun only with the commencement of the century, and to have grown from year to year, until an annual average of only about seven and a-half thousand between 1820 and 1830 had swollen to a majestic stream of 160,000 in 1873. How has this great exodus been disposed of? We should like to be able to say that it had, in the main, proceeded to our Australian Colonies, or to Canada; but the truth does not, unfortunately, allow of such a roseate and alluring conclusion. Very considerably more than two-thirds of the total number of emigrants from our shores during the last half century have proceeded direct to the United States. Many thousands more, who have gone to Canada in the first instance, have before long left that territory to take up their permanent quarters on the more settled soil of the American Union. The reason is not far to seek. Wages generally take a higher range in the United States, and emigrants who have long been accustomed to the pinch of low wages, are allured by the higher nominal value of the earnings offered there, although that value does not, of course, correspond necessarily with the real worth of the money received as regards purchasing power. It is true that in Canada the settler enters at once upon the possession of political rights and privileges, whereas in the United States these have to be purchased by a certain period of domiciliation; but there is no reason to suppose that this consideration has much weight in determining an emigrant's choice of his destination. His main, if not his only object, is generally to secure the best remuneration for his labour

coincidently with the greatest absence of privation and "roughing it."

It results from the facts just stated that England has not gained as much as she might have done by the emigration of her sons. One-third only, and scarcely that, of all who have sought for a more hospitable home beyond the seas have selected English colonies. To the extent of this proportion England has no doubt been a gainer. Every emigrant who settles in an Australian colony, contributes more or less to the demand for commodities supplied by the mother country, and thus far continues, in another sphere, to promote her material prosperity. But it is quite otherwise with those who have sought an asylum in the United States, and as by far the great majority have done so, the conclusion is forced upon us, however unpalatable it may be, that England has not, on the whole, profited by the transfer.

There is, as is well known, a certain school that holds and seeks to popularise the notion that emigration is in itself an unmixed good to a country which, like England, possesses a redundant population that is constantly tending to press on the means of subsistence. This, however, is by no means so obvious as it is made to appear. In a general way, it is not the waifs and strays of the population who seek to better their lot in another land. The courage and endurance, the ambition, and the determination to succeed, which are the conditions precedent to emigration, are among the highest qualities that a people can possess. It is those who possess these qualities that leave us; it is those who lack them that remain behind to swell the already large and unwelcome crowd of our pauper and criminal population. And it is not quite a comforting reflection that the possessors of qualities so desirable bear them away very largely, not to that Greater Britain beyond the seas, where they would still be used in a wider and more congenial sphere for England's benefit, but to a country which, in matters of

commerce at least, has no friendly feeling for the parent stock.

Emigration on a large scale has been held by some to be a measure of the poverty of a country. Others, again, claim that it is rather to be accepted as a sign of national vigour and capacity. There is nothing in the history of English emigration that can be regarded as conclusively establishing either view. The greatest emigration from British ports took place in the year 1882, which was generally a fairly prosperous year; the next greatest was in 1873, which was the most prosperous year that English industry and commerce have ever known. In 1878, again, which was a year characterised by exceptional depression in all branches of trade, the total number of emigrants from English ports was not a third of the numbers that left us in 1873 and 1882. It might almost be supposed that these facts prove a tendency to an increase of emigration when our home industries are flourishing. If, however, we look a little farther, we shall find that, relatively to its population, Ireland furnishes a greater number of emigrants than either England or Scotland, which is an evidence, so far as it goes, that it is the poorest countries, and by a parity of reasoning the most depressed conditions of trade, that furnish the greatest quotas to emigration. Additional support may be claimed for this view from the history of the movement in Germany and France. The latter, which has all along been by far the richer nation, has done very little towards peopling new countries. The total number of emigrants from France during the sixty years ending with 1880 was only about 330,000. Germany, on the other hand, sent out more than three and a half million of her surplus population during the same period. These figures seem to justify the belief that the Germans have emigrated because of their poverty; the French have not, because they were better off. In such a judgment, however, many qualifying circumstances would require to be con-

sidered. The most important of these is perhaps the differences in the character of the two nations. The one is more adventurous and less rooted to the soil than the other. A Frenchman believes that the summit of earthly felicity is attainable only in France. Let him have but the slightest margin beyond the barest subsistence, and he will save money and consider himself happy. The Teutonic temper is different, being neither so readily satisfied nor so limited in its horizon. These, and many other circumstances more or less qualifying, explain why Germany, which has only a slightly more dense population than France,[1] has achieved so much more in the way of colonisation.

There is one more aspect of this question that calls for remark. Whatever be the reason, the recent tendency of emigration from the United Kingdom has not, as might reasonably be expected, been in the direction of increase. The total number of emigrants from the United Kingdom during the ten years ending 1880, was 313,000, or about 30 per cent. less than the number for the immediately preceding decade; and 545,000 less than in the ten years, 1851–60, when emigration attained its maximum development. The same tendency has been apparent in Germany, though not to the same extent.[2] This is a curious social and economic fact. How is it to be explained? Not certainly by supposing that there has been less encouragement to emigrate than formerly. The colonies of England were never more ready to receive with open arms accretions of suitable population. The United States offer as many inducements as ever to those who are disposed to cast in their lot with the great Republic. Canada, with its one square mile of territory

[1] France has a population of 181 to the square mile; Germany a population of 209; while the population of England and Wales averages 445 to the square mile.

[2] 612,986 emigrants quitted Germany, in the ten years ending 1880, as compared with 184,000 in the preceding decade, and 907,000 in the decade 1851–60.

to every inhabitant, is more eager for recruits than either. Evidently, then, we must go further for the solution of the problem, and the only other reasonable solution that presents itself is one that cannot be otherwise than satisfactory, namely, that labour has been finding a more regular demand and a better remuneration in the Old World than it formerly did. This view is, moreover, quite accordant with the notable fact, prominently stated elsewhere, that the increase in the rate of wages paid in Europe within recent years, combined with a very considerable decrease in the general expenses of living, have greatly reduced the differences that formerly distinguished the requital of labour in the Old World and the New, so that less is to be gained by emigration than there used to be, on the part of those whose services are chiefly in request.

## CHAPTER XIX.

### *ENGLAND'S COLONIAL EMPIRE.*

"There is no parallel in all the records of the world, to the case of that prolific British mother who has sent forth her innumerable children over all the earth to be the founders of half-a-dozen empires. She, with her progeny, may almost claim to constitute a kind of universal church in politics."—GLADSTONE.

IN the introductory chapter of the present work, reference was made to the growth of that Greater Britain upon which the supremacy and the prestige of England so largely depend. It is necessary that we should now deal with this part of our subject in somewhat greater detail. Whether for good or for evil, the colonial empire of England is one of the most marvellous phenomena, not only in her own history, but in the general history of the world. So vast and unique a series of possessions must necessarily affect the mother country in a manner either highly advantageous or the reverse—must make the conditions of her supremacy and her supremacy itself *sui generis* among the nations of the earth. That the colonies are a source of strength and power is generally admitted; but the extent to which they confer these attributes, and the why and wherefore of their possession, are not so clearly appreciated.

We may, at the outset, appropriately consider the question, What is the real magnitude of the British Empire? Its area is upwards of eight millions of square miles, being about seventy times the size of the mother country. Its population is over 300 millions, or eight and a half times that of the United Kingdom. Other countries have possessed colonies before England, and other countries possess colonies now; but no country has ever before had colonies distinguished at once by

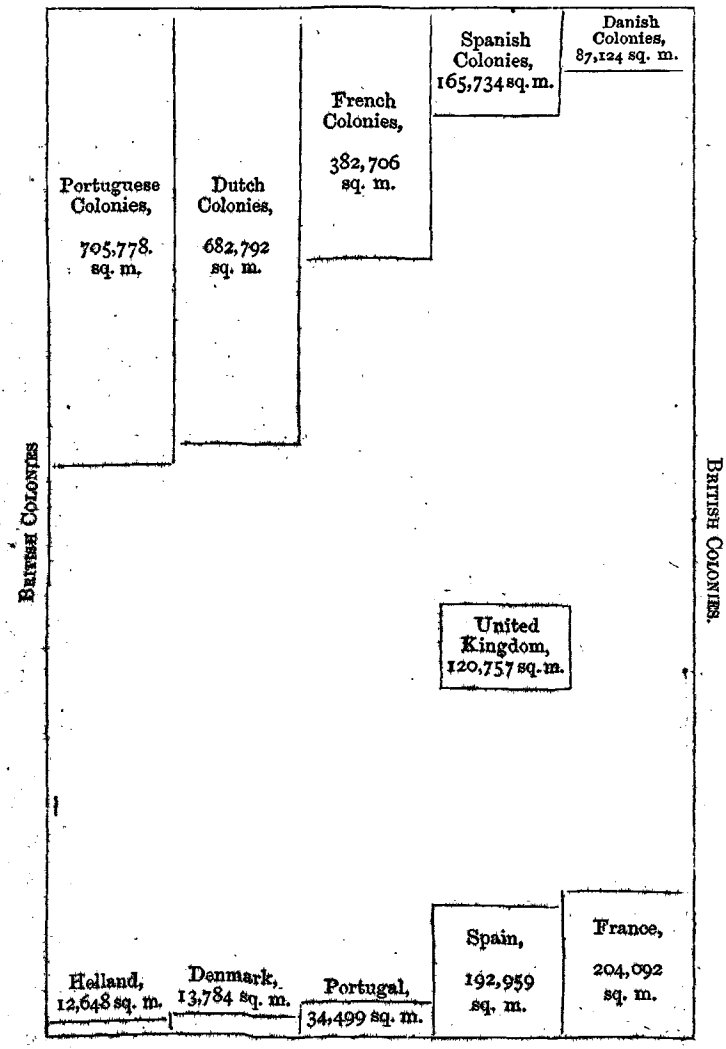
such magnitude and such progress, by such far-reaching extent and such fecundity. Nothing is more calculated to strike the imagination than a study of the growth of our Colonial empire. In population, in commerce, in revenue, in debt, and, generally, in all the elements of material development, that growth has been stupendous. Between 1860 and 1884, the population of our colonies (including India and Canada) increased from 152½ to 300 millions. In the same interval, the annual value of their commerce rose from 190½ to 370 millions sterling. The same quarter of a century witnessed a growth of revenue from 51 to 110 millions, and of debt (largely incurred on behalf of railways) from 125 to 320 millions. Some colonies have, of course, been developed at a much more rapid pace than others. Our African possessions have been developed more rapidly than all. Between 1860 and 1880, the population of our dominions in South Africa increased by 251 per cent., and in Western Africa by 148 per cent. Within the same period, the commerce of the former has increased by 320 per cent. and of the latter by 245 per cent. The largest amount of advance has, as might be expected, taken place in India, where the population has increased by 71 millions, or about twice the total number of inhabitants in the United Kingdom. Over our empire beyond the seas, regarded as a whole, there has been an increase in the last twenty years of 50 per cent. in population and 90 per cent. in commerce. Whither will this enormous expansion ultimately lead us? At the same rate of growth, if continued for less than another half century, England would, in 1930, have an empire of between seven and eight hundred million souls—that is to say, of more than twice the population of Europe, and nearly nine times the population of the American continent at the present time. It does not seem as if there were any physical limitations to this prospect. The average number of inhabitants per square mile throughout the British Empire is not now more than forty. In England

there are 445 persons to the square mile; in the United Kingdom 287. If the whole of the British Empire were populated as thickly as England and Wales, the total number owning allegiance to the British Crown would be, not 300 millions, as at present, but 3563 millions, or more than thirty-five times as many. It is not pretended that this figure, which is more than twice the whole estimated population of the world at the present time, can ever be realised. But such speculations are not therefore necessarily vain and meaningless. Within the next half century, the question of how to deal with the enormous increase of population in some of our colonies will become one of the most burning in practical politics, should our empire remain intact. Over the whole of British India there are now about 225 inhabitants to the square mile. In some provinces the population is as dense as 400 to the square mile. Even now the poverty of India is one of the most serious problems with which the Government has to deal. That poverty is not likely to be materially abated by a multiplication of population such as we have indicated. The same difficulty is threatened in some of our West Indian possessions. Barbadoes now supports a population of 1035 to the square mile; Mauritius, 501; Grenada, 323; St. Christopher, 444; and Bermudas, 734. But none of these are such a source of danger and difficulty, in reference to the future, as our Indian Empire, where a period of famine finds nearly 300 millions of people unprepared to meet it, and where there does not seem to be any prospect of lifting the great mass of the population out of the condition of abject, unmitigated, hopeless poverty in which they are immersed.

The author is under obligations to his friend Sir Rawson W. Rawson, the President of the Statistical Society, for permission to reproduce the following diagram from his presidential address to that body in 1884, with a view to showing the comparative colonial possessions of different countries:—

*Comparison of Countries and Colonies, to Scale.*

BRITISH COLONIES, 7,938,422 SQUARE MILES.


Portuguese Colonies, 705,778. sq. m.
Dutch Colonies, 682,792 sq. m.
French Colonies, 382,706 sq. m.
Spanish Colonies, 165,734 sq. m.
Danish Colonies, 87,124 sq. m.
BRITISH COLONIES
BRITISH COLONIES.
United Kingdom, 120,757 sq. m.
Holland, 12,648 sq. m.
Denmark, 13,784 sq. m.
Portugal, 34,499 sq. m.
Spain, 192,959 sq. m.
France, 204,092 sq. m.

The entire figure represents the AREA of the BRITISH COLONIES.

Having thus sought to appreciate the magnitude of the area of the British Empire, let us now see what effect our possession of such enormous territories has, and is likely to have, upon our circumstances as a commercial and manufacturing nation.

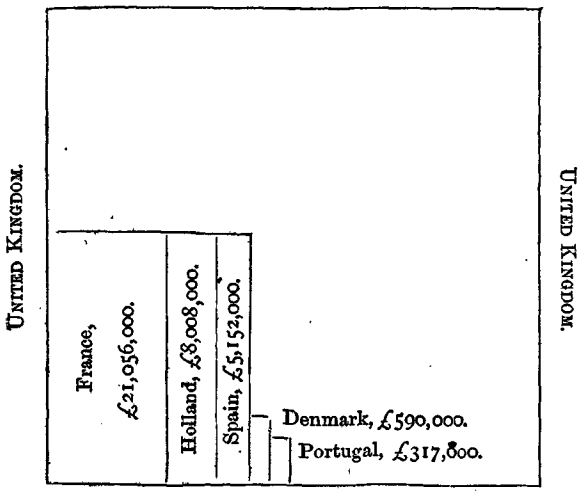
Subject to obvious and not infrequent limitations, which need not here be dwelt upon, there are few maxims of business more generally true than that which predicates that "the trade follows the flag." The aphorism is, however, peculiarly applicable to the trade of the United Kingdom. This fact will be more readily intelligible if we compare our colonial possessions and our commerce in reference thereto, with those of other countries.

The next largest colonising and colony-owning countries after the United Kingdom are Portugal, Holland, France, Spain, and Denmark. The colonies of these five countries have unitedly a population of about 47½ millions, or about a fifth of the population of the Colonial possessions of Great Britain. But while the total value of the import and export trade of the nations just named amounts to approximately 700 millions, only 35 millions, or 5 per cent. of the whole trade, is carried on with their several colonies. Great Britain, on the other hand, has a total trade, including imports and exports, officially valued at about 715½ millions sterling, of which fully 186½ millions, or 26 per cent., is carried on with her own possessions abroad. Obviously, therefore, our colonies confer upon the mother country, from a commercial point of view, advantages of the most substantial and exceptional character.

The facts just stated are presented graphically in the following diagram, for which we are again under obligation to Sir Rawson Rawson:—

*Trade of Each Country with its Colonies.*

UNITED KINGDOM, £186,358,000.




The entire figure represents the Trade of the UNITED KINGDOM with its COLONIES.

If, however, we are to search for the most conclusive argument to support the theory that "the trade follows the flag," we will do well to examine the statistics relating to our commerce with India. The trade of India is a very large one, as might be expected with a country of 250 million inhabitants, a great proportion of whom are engaged in industrial pursuits. Its exports embrace cotton, coffee, jute, hides, and skins, opium, tea, grain, indigo, and raw wool, all of which it is able to supply to an almost unlimited extent. The annual value of these exports has increased during the last twelve years from 55 to 82 millions sterling. This enormous volume of exports was distributed among sixteen countries in Europe, eleven in Africa, five in America, and fifteen in Asia, making forty-seven in all. But the United Kingdom, although considerably more remote than all the other countries in question, took 50 per cent. of the

whole exports of India in the former year, and 42 per cent. in the latter—the figures being 28½ and 35 millions sterling respectively. Look, now, at the case of imports. In 1873 India imported goods (including treasure) to the value of 35 millions sterling, of which 27½ millions, or 77 per cent., were imports from the United Kingdom. But in 1882 the imports of India reached a total sum of 58 millions sterling, of which again 43½ millions, or 74 per cent. of the whole, were imported from the United Kingdom. Our exports to India have, therefore, proceeded at a more rapid pace than our imports from that country, notwithstanding that we are indebted to her for a great deal of the raw materials of our manufactures, more especially cotton and jute, as well as a large and increasing proportion of the bread-stuffs required to feed our teeming population.

As an outlet for the surplus population of the mother country, the continued possession of the colonies is of the utmost importance. In the United Kingdom, the population has long been pressing more and more closely upon the means of subsistence. Unless, therefore, some adequate provision is made for absorbing elsewhere this excess of inhabitants, there will be a tendency towards impoverishment—towards lower wages and dearer prices of commodities. Emigration is the natural and obvious remedy for such a state of things. But people are not likely to emigrate unless it can be shown to be to their own personal advantage. All the most important colonies belonging to the British Crown present such an inducement. The average rates of wages paid in our principal colonies are very high, as compared with the wages paid in England, while the average prices paid for commodities in the same colonies are generally low, as compared with the mother country. These great advantages, however, do not exhaust the inducements offered to emigration. Our colonies, as a rule, are extremely healthy. The mean shade temperature of Sydney is 62° 6′ F., and that is very

nearly the mean temperature of the whole colony of New South Wales. In some other parts of the continent the temperature takes a higher mean range, but in none so high as to be unbearable for Europeans. In Canada the mean temperature varies from 44.3° F. in Montreal, to 32.6° in Manitoba. Our Cape Colonies possess a more temperate clime than almost any other part of the African continent; and our other colonies are mostly to be found in the temperate zone.

That the colonies are important to the mother country in respect that they furnish a certain means of supplying our large and increasing food-necessities is a fact that requiries little or no demonstration. But it may be pointed out that at the present time our food supplies are not mainly received from our own possessions. On the contrary, out of a total of 84½ million cwts. of grain received by this country in 1883, only 16½ million cwts., or 19 per cent. of the whole, were imported from our own colonies, including Canada and India. The remainder was received from countries that are avowedly unfriendly to England in matters of trade. More than 20 per cent. of the whole was received from Russia and Germany—countries that not only endeavour by hostile tariffs to exclude English manufactures, but countries, also, with whom, on some matters of imperial policy, we may at any time be engaged in war. About 50 per cent., or one-half of the whole, is received from the United States; and when we remember the Alabama case, and the determined efforts made by that country to develop native manufactures at the expense of England, it certainly is not incumbent upon us to show any partiality for the breadstuffs that we so liberally receive at her hands. How much more desirable would it be to transfer our custom to our own colonies, to which we are already so much indebted for our trade, and to which we have a right to look for still greater things in the future?

It may be argued, that, all things being equal, we

cannot buy breadstuffs so cheaply from either Australasia, Canada, or India, as we can from the United States. That, however, has yet to be proved; and it would require much more detail than we can give the subject here to show all the facts of the case. On the face of it, it is surely evident that if the breadstuffs of Australasia and India could not be imported in successful competition with those of the United States, we should not have increased those imports from only 100,000 cwts. in 1870 to about 14 million cwts. in 1883. This one fact is sufficient, one would think, to dispose of any cavilling as to the inability of our colonial empire to furnish all our needs as effectually and as cheaply as the United States. It could not, of course, be done in a day. A much greater development of railways is wanted in our colonies and in India before that result is attained, and we may depend upon it that, with a federated empire, English capital could have no better ultimate return than in the construction of the railways needed to bring the great wheat-fields of India and Australia into closer contact with the markets of England. Those railways would probably turn out remarkably good investments, considered only as investments, within a very short period,[1] but they would most certainly, in any case, provide an unlimited supply of food—and probably cheaper food than now—for the teeming population of the mother country.

India differs from the other possessions of Great Britain in this respect, that our rule is maintained there by force of arms. In general it will be found, that, so far as history supplies analogies to this state of affairs, the advantage has been on the side of the "powers that be"—that conquered possessions have been ruled with a special eye to the gain of the conquerors. Even under the tolerably just *régime* of ancient Rome, the subject nations and colonies were required to pay large sums in

[1] Already the railways of India pay an *average* dividend of over 5 per cent.

relief of the charges that would otherwise have fallen upon the dominant people. But the records of our rule in India point to a different system. It is true that we have developed an enormous export trade with that country—a trade that has fully doubled within twenty years. But that trade has been perfectly free and unshackled. We did not require the subject races to buy in English markets, unless they desired to do so. We left them perfectly free to resort to any other markets where they could do better. They have taken full advantage of that liberty—so much so, indeed, that Indian products, agricultural and manufactured, are to be found in every country of the world. And if India enjoyed no other advantage from our sway than that of having facilities afforded to it for so disposing of its productions, that one of itself would be enormous. But an examination of the export and import returns of the United Kingdom will show that during the fifteen years ending 1883, we imported from India goods to the value of 94 millions sterling in excess of our total exports to that country for the same period. In other words, in that time our imports from India amounted to 468 millions sterling, and our exports to India reached an aggregate of 374 millions sterling.

Two obvious considerations here occur. The first, whether India, under a system of absolute freedom of trade, has been able to find equally good or better markets for her productions in other lands; and the second, whether there is any special reason why Great Britain should receive such an enormous volume of commodities from her Indian Empire rather than from elsewhere.

An answer to the first proposition is contained in the fact that, of the total exports from India in 1882, amounting in value to 83 millions sterling, not less than 35 millions were received by the United Kingdom. It will, perhaps, be answered, "Oh, but that, after all, is

only 42 per cent. of the whole." Quite so; but on analysing the figures it appears that no other country received more than 15 per cent., that being the proportion received by China, the next-door neighbour, so to speak, of the producing country, and one, too, which—unfortunately as many of us think—cultivates a very special and remarkable traffic. With all the rest of the world before her where to choose, India has not succeeded in any one year in placing more than 10 per cent. of her native productions in any other country, and her trade with her greatly feared and encroaching neighbour, Russia, is represented by the ridiculously small figure of .006 per cent. Surely if the natives were ever to be called upon to decide as to the comparative advantages to be received from Russian, as opposed to English rule, this fact would be a sufficient answer.

There are those who maintain that the colonial policy of England has been a failure. To those who argue thus, or who hold that the colonies have so far owed but little to the mother country, it can scarcely be inappropriate to call attention to the results achieved by another great colonising European power—France. The French Republic has sixteen different colonies, most of them possessed of unhealthy climates, few of them endowed with natural resources of any great value, and all of them in a more or less backward condition. The united population, civil and native, of these colonies, according to the latest returns, was 5½ millions, over whom there were garrison and police forces numbering 121,494, and French officials to the number of 16,562. Their revenue in the aggregate was under 3 millions sterling, and the amount of state aid annually expended on their behalf was not less than 4 millions sterling. To compare these facts with those illustrating the position of England's colonial empire would be little short of a *reductio ad absurdum.*

Having up to this point dealt only with the advantages

that so obviously accrue to the mother country from her colonial empire, it now becomes the duty of the candid recorder to present the other side of the question. That there is another side, it would be foolish and uncandid to deny. The possession of so vast a congeries of "principalities and powers" in different parts of the world entails upon England risks and responsibilities such as probably no nation has ever before been called upon to face. In the necessary effort to keep open our highways to and from our colonial possessions, we are ever and anon liable to become embroiled in a great European war. From the time of the American War of Independence onwards till the present time, this danger has been continually staring us in the face; and most of the wars, great and small, in which we have since then been engaged, have been undertaken more or less directly in consequence of difficulties arising out of our obligations to our colonies. England has thus had to pay a very heavy price for her supremacy. That the reckoning is yet far from complete the recent menacing attitude of Russia sufficiently proves.

Again, it is a common mistake to suppose that if the colonies contribute nothing to the parent country, neither do they cost us anything in the way of direct expenditure. But what are the facts? According to Sir John Lubbock,[1] no account had been published showing the amount spent by the mother country in the colonies before the year 1858, but from 1859 to 1869 it amounted to more than £41,000,000, being at the rate of £4,100,000 a year. Down to 1870, the mother country bore the military expenses of the colonies, and though this has been by degrees to a great extent discontinued, our expenditure under this head is still, or was until quite lately, very considerable.

Considerations such as these have suggested to the minds of sagacious and practical statesmen whether it would not be possible to frame some scheme by which

[1] *Nineteenth Century*, 1877, p. 38.

a more firm and enduring union than that which now exists between the mother countries and her colonies could be provided for. It is no part of our purpose to enter upon the large question of imperial federation, but having regard to the fact that the colonies are now united to the mother country by ties that are liable to snap asunder on the slightest tension, it behoves the responsible statesmen of the empire to consider how such a state of things can be altered. No one is disposed to doubt the loyalty of the colonists. Nor was there any reason to doubt the loyalty of the inhabitants of North America when the war of secession took place. Our danger is quite as real and imminent now as then. Canada has already a much larger population than the United States had in 1780. The Government of that day no doubt regarded the impost which led to the revolutionary war as a "trifle light as air," but an equally trifling affair may at any time lead to a similarly deplorable result in the case of our present colonial possessions. The Australasian Colonies only recently declined a proposal of the mother country to contribute towards the cost of the government of the Fiji Islands, annexed to the Crown in compliance with their own wishes; and had England not chosen to be generous, serious complications might very easily have occurred upon the principle which this case involved. There is, moreover, no more certain means of creating friction and irritation between one part of the Empire and another than the maintenance of differential and largely hostile tariffs, which is now, to a certain extent, characteristic of colonial policy. It is not an uncommon sentiment at home that the colonies, while under English rule, ought not to be permitted to impose tariffs hostile to English trade, or, indeed, to follow any other fiscal policy than that with which the mother country has become identified. Colonial statesmen, on the other hand, are disposed to resent any attempt on the part of the mother country to dictate the principles and

policy on which colonial revenues should be raised; and it must not be forgotten that all countries furnished with abundance of breadstuffs, but with undeveloped industries, find something alluring and plausible in protectionist doctrines. At the present time, it appears that thirty-one of the colonies or other possessions of the British Crown levy an import duty on cottons varying from 2 per cent. in the case of Gambia to 12½ per cent. in the case of Western Australia and Jamaica. Sugar is burdened with duties varying from 3s. per cwt. in Victoria to 18s. 8d. in British Guiana. Paper and stationery is required to pay from 4 per cent. on the Gold Coast to 12½ per cent. in Jamaica; and twenty-eight colonies impose duties ranging from 4 per cent. at Barbadoes to 17½ per cent. in Canada for some descriptions of so necessary an article of consumption as iron. Nor is this all. Some of the colonies are so mistaken in their fiscal policy as to levy duties on articles of export, as if they were putting a premium upon the limitation of their means of development, and in this regard neither India, which imposes an export duty of 6¼d. per cwt. on rice, nor Canada, which levies a duty of 4s. 2d. per 1000 feet of pine and spruce logs, are free from blame. Facts of this kind are not calculated to put the mother country in the best of humour with the colonies; but it is probably not too much to hope that in the near future an uniform tariff may be adopted.

## CHAPTER XX.

### *THE PROFITS OF INDUSTRY.*

THE inquiries of the ablest statesmen, political economists, and statisticians, have been directed at one time or another to a solution of the problem of how to estimate most readily and accurately the comparative prosperity of a country. It seldom happens, however, that any two writers on this subject are exactly agreed. Some regard the most rapid growth of population as the surest test of national well-being; others the extent of a country's commerce; others, again, the extent of manufacturing industry; and some, the perfectibility of its attainments in the arts and sciences. M'Culloch thought that "no certain conclusion respecting the prosperity of any country can ever be drawn from considering the amount of its commerce, or its revenue, or the state of its agriculture or manufactures;" and he proceeds to argue that "the *average rate of profit* is the real barometer—the true and infallible criterion of national prosperity," because "a rise of profits is the effect of industry having become more productive; and it shows that the power of society to amass capital, and to add to its wealth and population, has been increased, and its progress accelerated."

This standard of wellbeing, it may be remarked, does not quite correspond with a good deal that the author had put forward in his first chapter, where he states that "the citizens of Greece and Rome considered it degrad-

ing to engage in those occupations which form the principal business of the inhabitants of modern Europe. . . . In some of the Grecian states the citizens were prohibited from engaging in any species of manufacturing and commercial industry; and in Athens and Rome, where this prohibition did not exist, these employments were universally regarded as unworthy of freemen." But even M'Culloch does not deny that Greece and Rome attained, each in its day, to great prosperity, although when they "denounced the passion for accumulating wealth as fraught with the most injurious and destructive consequences," it is difficult to see how their prosperity could be in any way dependent upon the average rate of profits.

There can, however, be no manner of doubt that so far as national prosperity is dependent upon mere increase of wealth, there is no more certain barometer of a country's condition than the average rate of profit earned in business. The disadvantage, from this point of view, of a very low range of profits, is obvious; and no nation that labours under this disadvantage can hold its own against others differently circumstanced, except by the practice of the most strict economy. It is therefore a matter of national concern to inquire into and to ascertain, as far as the available data will allow, the comparative circumstances, in this respect, of our own and other countries.

In some countries, as in the United States, the average rate of profits in any particular industry, and in the country as a whole, is ascertainable with approximate accuracy from the census reports. In France and Belgium the average profits in particular industries may be calculated by the subtraction of the total wages paid from the average realised selling price of the commodity produced, as in the case of coal. But in England there are absolutely no figures available that are calculated to afford any direct evidence on so important a matter, and the

desired information must be deduced, inferentially rather than conclusively, from such extremely doubtful sources as the income-tax returns. The *data* necessary to enable a sound judgment to be formed on such a subject must, indeed, be necessarily extremely precise and comprehensive. It should embrace the average and aggregate amount of the wages paid in each business or industry, the total sum paid for the raw materials used in manufacturing, the total realised value of the products so obtained, the amount of capital embarked, both fixed and circulating, the liability to depreciation of works, machinery, and stock, and many other factors of the same character.

It might be attempted to construct an estimate of the rate of profit earned in different countries where income-tax is imposed, on the basis of the amount of income subject to such tax from year to year over a period of time. But such a method of estimation would be open to objection on several grounds. In the first place, no one seriously believes that the whole amount of income earned is returned to the Income-tax Commissioners. There is, indeed, a liability to error in two opposite ways. The chief source of error would, of course, be found to consist in the failure of those liable to the tax to return the full amount of their income. But there are others, again, who pay on a larger income than they actually earn, because it does not suit them to let others know that their incomes are not so large as they are supposed to be.

With these limitations we may now proceed to consider what is the annual value of the property and profits assessed to the income-tax; or, in other words, what is the annual average profit earned on the chief sources of income in the United Kingdom. The income-tax of this country, as is well known, is collected under four principal schedules—the first (A) referring to lands and houses; the second (B) to the profits of agriculture; the third (C)

to public funds, less home funds; and the fourth (D) to trades and professions. It is manifestly to schedule D that we must look as the chief means of giving us an appreciation of the growth of our national income, and the variations in the average rate of profit.

On examining the returns of income under this schedule, one cannot fail to be struck with the fact that it shows a rate of growth which is not equalled by any other, nor indeed by all the others put together. The total amount of property and profits assessed under it in 1804 was only 35 millions; in 1840 it was 70 millions; in 1850, 65 millions; in 1860, 95 millions;[1] in 1870, 178 millions; and in 1880, 215 millions.[2] Hence it appears that the amount of increase in the twenty years ending 1880 was not less than 120 millions, or in other words, that the amount of assessment had in that period considerably more than doubled.

The progress, however, has not been at all uniform. In some years the profits appear to have been extraordinary, in others they have been *nil;* and between the two extremes there would appear to have been all kinds of degrees. A tabular statement in the Appendix will afford an idea of the singular variations that have occurred at different dates in the amount of the assessments in respect of the principal items.

On comparing the quantities of minerals worked in the coal, iron, salt, copper, and lead mines of the United Kingdom, during the nineteen years ending with 1880, with the aggregate amount of the profits on mines assessed to the income-tax during that period, it comes out that the average amount of profit realised per ton of mineral worked was about 1s. 3d. per ton. The average profit from year to year varied considerably, the maxi-

[1] This advance is to a large extent due to the fact that the assessments on mines, &c., were in 1866 transferred from schedule A to schedule D.

[2] The maximum, however, was 267 millions in 1875.

mum apparently having been attained in 1875, when the average profit returned was over 2s. per ton.[1]

Having got this general average, however, we are still a long way from having solved the problem in hand. For it is obvious that some departments of mining must have yielded a greater and some a less profit, while a return that would be ample, and even princely, in coal and ironstone mining, would be certain to conduct lead and copper mines to the door of the bankruptcy court. If it were competent to assume that 1s. 3d. per ton was the average profit realised over the period dealt with in our chief mineral industry,[2] namely, coal-mining, no one would be very likely to complain; but it is well known that the actual average profit has been considerably under that figure, and if it is put at 9d. to 10d. per ton, it will probably be nearer the mark.

What, now, is the actual amount of capital embarked in the coal trade? Many guesses and estimates have been attempted in reply to this question, but all have necessarily been largely hypothetical. In the United States the matter is not left altogether to guess work. The Census Report of 1880 states, as the result of a full ascertainment of the matter, that in that country the capital embarked in coal-mining is about 365 million dollars, or (converting the dollar at 4s. 2d.) about 76 million pounds sterling, being rather more than a pound sterling per ton of coal raised annually. If the same ratio of capital to results be assumed for the United Kingdom, it would follow that the capital embarked in the coal industry of this country is over 160 millions sterling, although, as all kinds of machinery and labour are much cheaper here than in America, it is probably

[1] This does not seem to correspond with the general impression, which is that 1873 was the best year, as it certainly was the year of highest nominal prices.

[2] The quantities of minerals produced during this period amounted to a total of 2326 millions of tons, of which 2039 millions were coal, and 250 millions were iron ore.

considerably less than that figure. If we allow, say, 20 per cent. for this difference, the capital embarked in our coal industry will come out as 128 millions sterling.

In the United States the total quantity of coal raised in 1880 was rather over 70 millions of tons. After deducting the value of all the materials consumed in the getting of this quantity of coal, and the aggregate amount paid as wages and salaries, from the realised gross value of the product, the nett remainder is £8,950,000 sterling, which is equal to about 2s. 6d. per ton on the whole output, or, in other words, is almost 12 per cent. on the whole amount of capital employed. It would therefore appear that in the United States the profits of what is, beyond all comparison, the greatest industry in both countries, take a much higher range than with us, and that, too, in the absence of any duty on coal imports.

But while the United Kingdom may compare disadvantageously with the United States in this regard, it will be found to bear favourable comparison with Continental countries.

In Belgium, according to the official statistics,[1] the 17⅝ million tons of coal raised in 1882 were obtained at a cost, for wages and other charges, of 171 million francs, and as the gross realised value was about 176 millions of francs, the nett profits only amounted to about 5 millions of francs. In the preceding year, the nett result of the working of the collieries of Belgium was a deficit, or an excess of expenditure, to the amount of 1½ millions of francs. In France and Germany the results of working in the same industry were better than in Belgium, but still below those of the United Kingdom.

Space will not allow of examining the comparative circumstances of other industries to the same extent as we have looked into those of the coal industry, which, indeed, is the most important of all. But one or two

[1] Statistique des Mines, Minières, Carrières, Usines Metallurgiques, et Appareils à Vapeur pour l'année 1882.

reflections are obvious. It is not a little surprising to find, that while the total amount of property and profits assessed to the income-tax in the United Kingdom has increased between 1862 and 1879 to the extent of 221 millions sterling, or about 63 per cent., that of landed property has only increased by 6½ millions, or less than 12 per cent. The value of the land has not apparently increased in the same proportion as that of other descriptions of property, and if this proves anything, it must be held to prove that farmers have not within that interval experienced any great average increase of rent. The total acreage of land under cultivation in the United Kingdom is 50 million acres, so that the figure at which it is assessed to the income-tax does not represent a large profit per acre. With reference to houses, the increase has been much more remarkable. The amount of assessment has increased from 62 millions in 1862 to 115 millions in 1880, being an increase of 53 millions sterling, or 84 per cent. This is no more than might have been expected from the great increase, both in the number of houses built and the rents paid for them, in the interval, although it is to be remarked that the mere numbers give no clue whatever to the profits realised upon this species of investment, unless particulars of the style, cost, &c., of the houses are also afforded. That the annual value of railways has advanced in the period under review from about 15 millions to more than 29 millions will not excite surprise when it is remembered that concurrently with this increase the mileage built has increased from 11,551 to 17,933 miles, and the paid-up capital from 385 millions to 728 millions.

Next to the mining industry, one of the most important, if not the most important in the country, is that of iron and steel; and up to within the last few years no other industry has shown the same rapid development in the income-tax returns. But although the iron trade enjoys the distinction of being separately distinguished

in the Reports of the Inland Revenue Department, it is not on that account the easy matter it might seem at first sight to calculate the average rate of profit from the gross annual value returned. The calculation is liable to be complicated by many disturbing elements. To begin with, none but the initiated know what is included in income-tax returns under the term "ironworks," which may or may not include foundries and engineering shops, crucible, Bessemer, and open-hearth steelworks, galvanising and nail works, anchor, chain, and a dozen other different factories.

In the United States, the returns collected by the census enumerators enable the average profits to be approximately estimated. The total production of American pig iron in 1880 was 3,781,021 tons, and the nett realised profits arrived at, after deducting the total value of the raw materials used, and the total amount paid as salaries and wages, was £3,750,000, being roughly a trifle under one pound sterling for every ton of iron produced, or, put in another way, 17.1 per cent. on the total capital embarked.

In the finished ironworks, a very similar result is shown. The total production of rolled iron in 1880 was 2,353,000 tons, and the profit realised, as ascertained in the way already described, was £3,020,000, being an average of nearly 26s. per ton produced, or equal to rather over 16 per cent. on a capital of 89 million dollars.

It is, however, in the Bessemer and open-hearth steel trade that we find the United States to have earned the most remarkable profits. In that branch of the metallurgical industry, the nett profits left in 1880, after defraying all expenditure on wages and materials, was £2,915,000 sterling, being, on a production of 983,000 tons, more than £3 per ton, and, on a total invested capital of 21 million dollars, as nearly as possible 70 per cent.

This shows, of course, a much higher rate of profit than that ordinarily obtained, and is probably greatly in excess of the average profits obtained even in that industry. So far as the census returns go, they appear to indicate a diminishing rate of profit, which is strictly in accordance with both the known condition and tendency of industrial affairs and with their natural order.

A table in the Appendix shows the approximate profits realised in sixteen of the leading industries of the United States in 1880, as computed in the rough-and-ready fashion already described. The lowest rate shown in this table is 20.74 per cent. in the shipbuilding industry; the highest, 95.10 per cent. in the leather manufacture. Between these two extremes there are all sorts of intermediate variations. The profits earned in the more important industries—cotton, flour, and print mills, and coke—take a lower range than those found for minor industries, in which there is presumably less competition. But in all cases the average may certainly be regarded as much higher than that of the United Kingdom, as they are also probably higher than those realised in any year since 1880.[1]

The profits made in the cotton trade are very far from uniform, and such as they are, it is difficult to ascertain them. That they must have been considerable in past years may be safely assumed from the fact that so much capital has been attracted to the trade. We have before us a list of about thirty Lancashire cotton-spinning and woollen limited companies, and their rates of dividend in 1873. The lowest dividend on the list is 10 per cent., the highest 42 per cent., and the average is over 20 per cent. It would, however, be absurd to regard 1873 as being in any sense an average year. The average price of exported cotton yarn in that year was 17.76d. per lb.,

[1] This conclusion is based upon the fact that the prices of nearly all commodities have fallen in the interval, some to the extent of nearly 100 per cent.

whereas during the seven years ending 1883, it only once rose above 13d. per lb. Piece goods, plain, in 1873, averaged 3.45d. per yard, as against an average of only about 2.7d. per yard for the last seven years. With such enormous odds in its favour, the year 1873 could scarcely fail to be a prosperous one all round. But in 1883, which may be regarded as a more normal year, the condition of things was very different. Mr. Montgomery states that in that year 49 cotton-spinning companies in the Oldham district made an average profit of $7\frac{3}{4}$ per cent.[1] This profit was made when the average price of cotton yarn over the whole year was lower than it had been in any previous year in the history of the trade. It must not, however, be rashly assumed, for that reason, that in every preceding year the profits were proportioned to the differences in the price of yarn. The cotton-spinning industry, like every other, has been modified by the introduction of new processes and machinery. Wherever it has been possible, increase of economy has been practised. Smaller profits have been spread over a greater production, the cost of motive power has been largely reduced by better engines and boilers, and the average productiveness of the operatives has been increased enormously. Nor must it be assumed hastily that because so many firms are able to earn a fair profit, the same profit is possible to all. The companies already referred to are stated by Mr. Montgomery to be in a better position than the private mill-owners. They "have ample capital, borrow money on easy terms, and are not tied to their bankers. The management is practical and inexpensive; their mills are large, new, and well fitted to do staple work cheaply and efficiently. If they find it difficult to make an adequate return upon the capital, it is impossible for the private mill-owner under ordinary conditions to earn good profits." It is a little puzzling, after this, to find it stated that "during the ten years

[1] Papers read before the Manchester Statistical Society, November 1884.

from 1873 to 1883, 305 cotton-spinning, manufacturing and doubling companies in Lancashire and on the Yorkshire border were registered, with a nominal capital of nearly 20 millions sterling, and their number goes on increasing; in the town of Oldham there is scarcely a publican, railway porter, policeman, or shopkeeper, who is not a shareholder in one of them." These people, we may be sure, would not put their eggs into a basket with holes in it; and the great growth of cotton-mills is the best proof that they have not, on the whole, been unremunerative in the past. As surely as the needle points to the pole, so surely will capital cease to be attracted to an investment that is notoriously unremunerative; and we may therefore conclude that so long as cotton yarn does not fall below 12.25d. per lb., nor plain piece goods below 2.61d. per yard—the average prices of 1883—there is a fair likelihood of cotton-spinning firms keeping their heads above water, while beyond these prices a tolerably fair profit may be looked for, assuming, of course, that the cost of labour and raw material does not materially increase.

In the cotton trade of the United States, profits seem to take a lower range than in almost any other industry. The average percentage of profit on the capital embarked in 1880, as ascertained for census purposes, was 22.97, and if from this figure we deduct 10 per cent. for depreciation, renewals, and losses, the nett profit would not seem to be excessive. In America, as elsewhere, cotton manufacturers have been compelled, of recent years, to depend rather upon small profits spread over a large production, than upon greater profits on a more limited output. A striking proof of this tendency has been furnished in some figures, supplied by Mr. Atkinson,[1] who states that, in the same mill, working the same quality and description of material, the average profit per yard in 1830 was 2.40 cents, and in 1884 only .41 cent, showing a decrease of 83 per cent. Concurrently

[1] "Mechanism and Metaphysics of Exchange." Boston, 1884.

with this decline of profit, however, the production increased enormously, the quantity of cotton worked per operative per day having been 9.94 lbs. in 1830, and 31.22 lbs. in 1884—an increase of 214 per cent.—which explains the fact that 17 operatives could work 1000 spindles in 1884, while 49 were required to do the same in 1830.

The following interesting statement of the profit per yard necessary to be set aside in different years in order to pay 10 per cent. on the capital used in a Massachusetts factory is given by Mr. Atkinson:—

| Year. | Amount. | |
|---|---|---|
| 1830. | 2.400 gold. | |
| 1840. | 1.181 gold. | |
| 1850. | 1.110 gold. | |
| 1860. | .688 gold. | |
| 1870. | .760 cur. | |
| 1870. | .660 gold. | |
| 1880. | .481 gold. | |
| 1883. | .434 gold. | |
| 1884. | .408 gold. | |

The total amount of capital embarked in the manufactures and industries of the United States (excluding agriculture) in 1880 was 2790 million dols. The total amount paid in wages during the year was 948 million dols., and the value of the raw materials used in all industries was 3397 million dols., while the aggregate value of the products obtained was 5369½ million dols. The balance left, therefore, after deducting all wages and outlay for raw materials, was 1024 million dols.; a sum equal to 40 per cent. on the capital embarked. It will not for a moment be contended that this sum represented the average profits of trading in the United States for the year in question. There are many things to come against it besides interest on capital invested, such, for example, as cost of administration, depreciation and renewal of plant and works, bad and doubtful debts, &c.; but, even after the most liberal allowances have been made on these grounds, it will be admitted that the average return does not seem a bad one.

If we could arrive at an average that would correctly represent the amount that should be set aside in all industries to meet the variable items of depreciation, renewals, and bad debts, we should then be able to calculate, from the *data* supplied by the Census Reports, the net profits earned in manufacturing industry in America. In the absence of any such general average, it must be left to every one to fill in such figures as his own experience may suggest as most likely to meet the contingencies specified.

That capital is always attracted to the trade or locality that returns the highest rate of interest is a law of universal application, limited only by very slight modifications. Adam Smith has stated that one of these modifications has reference to the agreeableness of the employment engaged in, and specifically refers to the differences that generally exist in the relative profits of a butcher and a baker, as based upon the more agreeable character of the work of the latter. It may be doubted whether even this distinction obtains to any extent in the present day. The desire to make a fortune by a short cut, and the difficulty of making a fortune at all in the face of the existing competition, are such that considerations of the character just stated would probably have a very limited influence indeed in determining the channel into which capital should be directed.

There is, however, one notable exception to this general statement. Capitalists in general are satisfied to obtain a much smaller return in agricultural than in manufacturing industry, and hence, so far as it is possible to estimate it, the rate of profit accruing from the cultivation of the land is much under that yielded by manufactures.

It is almost as difficult to arrive at a reliable estimate of the average profits from land, as it is to ascertain the profits of manufacturing industry. The two are dependent alike on good and economical administration, on convenient and ready access to profitable markets, and

on cheap and efficient labour. But agriculture, unlike manufactures, depends also on the character of the soil, the clemency of the seasons, and the liability to murrain.

Sir James Caird has estimated the total value of the agricultural products of the United Kingdom at about 260 millions sterling.[1] On the other side of the account there is to be placed—

| | |
|---|---|
| Rent at 30s. per acre . . . . . | £75,000,000 |
| Rates and taxes . . . . . | 16,000,000 |
| Manures, &c. . . . . | 30,000,000 |
| Wages of 1½ million labourers at 14s. per week | 55,900,000 |
| Interest on capital of 400 millions at 5 per cent. | 20,000,000 |
| Total outlay . . . . | £196,900,000 |

from which it would appear to follow that there was a remainder of 64 millions left for profits, for the farmer's own labour and that of his family, and for the losses that are so frequently met with in agricultural operations. This is equivalent to an average of 25s. per acre, or rather over £55 for each farmer, large and small, throughout the three kingdoms. It may be said that the figures quoted fully support the general complaints of agricultural depression.

Let us now compare these figures with those that are given in the Census Reports as representing the economic results of agricultural operations in the United States in 1880.

The estimated value of all the farm products of the United States (including what was sold, as well as what was consumed and left on hand) is stated at 2212½ million dols., being an average of about 8 dols. pe acre of improved land, or 553 dols. (£112) per farm. The aggregate value of the farms, implements, and live stock, the cost of fertilisers, and of making fences, &c., is

[1] Very high authorities, including Mr. Harris, M.P., and Major Craigie, regard this as too high a figure, which it probably is at the present time.

stated for the same year at 21,210½ million dols. If interest at 5 per cent. is allowed on this latter amount, it would follow that 1060½ of the total annual value of the products of agriculture would be so absorbed, which would leave only 287 dols., or £57, 8s. per farm for labour, renewals, &c. Now, as there were on an average, 1.9 hands of all ages and both sexes on each of the farms in the United States in the year 1880, it would seem as if farming in that country were not greatly more profitable than in our own. But the accuracy of the census returns as to the value of the gross agricultural product has been doubted. Mr. Edward Atkinson, whose views are entitled to a high degree of consideration, places their gross value at 1000 million dols. more than the Census Report, which would, of course, give a total remainder, after providing for interest on capital, &c., at the rate of 5 per cent. per annum, of £107 per farm to meet the cost of labour, and the risks and dangers already alluded to as specially incident to agriculture. On this basis of computation, the average nett result accruing to the American farmer would appear to be much better than that earned by his British compeer, which it is only reasonable to suppose it is.

Although this is not altogether the place to enter into a consideration of the causes that contribute to raise the average profits in one country and depress them in another, it will not perhaps be a wide digression if we suggest whether the greater average profits of the American farmer is not due to greater economy of manual labour, or, in other words, to a more general use of labour-saving machinery. It has already been pointed out that, on comparing the area of cultivated land in both countries with the numbers actually engaged in their cultivation, it will be found that in the United Kingdom the number of agriculturists of all kinds, relatively to the land cultivated, is twice as great as the number so employed in the United States.

There can be no doubt that in this country the tendency of business within recent years has been to reduce the average rate of profit on a given amount of business, so that manufacturers and merchants now look for their remuneration rather to small profits on a great volume of business than to great profits on a more limited turnover. It is easy to bring this fact to the test of figures. The prices of the funds and of railway securities are a tolerably sure evidence of the general returns upon accumulated capital. Both have greatly advanced in value within recent years. English industry, as Sir Thomas Brassey has admirably shown,[1] is thus able to command the use of capital at lower rates of interest than have as yet been accepted in any other country, with the exception of Holland. The English landlord is satisfied with 3 per cent. interest on money advanced for agricultural improvements, while German agriculturists have to pay 6 to 6½ per cent. to the "People's Banks" for similar accommodation; and in the United States farmers require to pay a considerably higher rate of interest even than that.

John Stuart Mill has investigated the subject of the average rate of profit for safe investments in England, and has put it at from 3 to 4 per cent. The rate of increase of capital was such, in his opinion, that it would before long bring down the average rate of profit to only 1 per cent., were it not for such countervailing circumstances as waste of capital in periods of overtrading, improvements in production, greater facilities for obtaining cheap commodities from foreign countries, and the constant flow of capital into new countries in search of greater profits.

One thing is certain. Whatever the average rate of profit may be in the United Kingdom, it is sufficient to allow of the great bulk of the people being maintained

[1] Paper on "The Increase of the Products of Industry," read at the Industrial Remuneration Conference in London, January 1885.

in a higher degree of comfort than in almost any other nation. If our profits are generally smaller, as computed on a given quantity, that nett amount would appear to be brought up to nearly the average of newer countries by our cheaper money, and our enormous area of production. In the general interest of the community this is more to be desired than a larger profit on a less production, notwithstanding M'Culloch's dictum, quoted elsewhere, as to the prosperity which great profits attest.

## CHAPTER XXI.

### *NATIONAL WEALTH.*

"The huge figure of a thousand millions sterling, which may be taken roundly as the annual income of the United Kingdom, has been reached at a surprising rate—a rate which may perhaps be best expressed by saying that, if we could have started forty or fifty years ago from zero, at the rate of our recent annual increment, we should now have reached our present position. But while we have been advancing with this portentous rapidity, America is passing by as if in a canter. Yet even now the work of searching the soil and the bowels of the territory, and opening out her enterprise throughout its vast expanse, is in its infancy."
—GLADSTONE.

THE "wealth of nations" is so intimately bound up with their material and social well-being that it is highly desirable to bestow some consideration upon this phase of our national supremacy. All other things being equal, the country that has accumulated stores of wealth will stand a much better chance in the race for priority of place than the country that is not so well furnished with the "thews and sinews" of commerce and industry. It can thus command the cheapest money, it can provide for the immediate adoption of the best and most economical processes of husbandry and manufacture, it can employ the most skilled labour, and it can most readily arrange for the advantageous distribution of its products. In a word, a nation possessed of great accumulated wealth is invariably found to be prosperous, while a nation differently situated is pretty generally, if not necessarily, found to be entirely the reverse. It is not, of course, to be assumed that wealth is the

only thing worth striving for. Some of our greatest poets, and many philosophers, both ancient and modern, have denounced the accumulation of wealth as a sign of national weakness. But whether "ill fares the land," or whether "men decay," as a result of the growth of riches, we have now to deal, not with a question of ethics, but with that of how far the wealth of our own has kept pace with, or surpassed, that of other countries, and how far that wealth is synchronous with the maintenance of England's pre-eminence in arts and manufactures.

There is no gainsaying the fact that the mass of the people of this country, whether they are actually better off than formerly or not, are by no means so well satisfied with their lot as their forefathers. They are making increasing demands for physical and material equality, which, to quote the well-known words of Mr. Disraeli, in his address to the Glasgow students, "is the disturbing spirit which is now rising like a moaning wind in Europe, and which, when you enter the world, may possibly be a raging storm." The same fear of the future characterised the later writings of Carlyle. "The look of England," he said, "is to me at this moment abundantly ominous. The question of capital and labour, growing ever more anarchic, insoluble altogether by the notions hitherto applied to it, is pretty sure to issue in petroleum one day, unless some other gospel than that of the 'dismal science' come to illuminate it." There are those who seem to apprehend that the petroleum is nigh at hand, and there have not been wanting those who have shown impatience that the working man has been so long in applying the torch.

Now, if the "raging storm" predicted by Disraeli, and the "petroleum" apprehended by Carlyle, are close upon us, it is well that those who are responsible for such revolutions should not blindly rush into them. It is not to be denied that there is much misery and poverty

in England, as elsewhere. "Il est impossible," says Guizot, "de regarder sans une compassion profonde tant de creatures humaines si miserables . . . cela est douloureux, très douloureux à voir, très douloureux à penser; et cependant il faut y penser, y penser beaucoup; car l'oublier il y a tort grave et grave peril." But there is a constant tendency to exaggerate the wrongs and the troubles of the working classes. Such men as Henry George do an incalculable amount of harm by preaching a gospel impossible of realisation under any circumstances, but certainly calculated, even if possible, to make "confusion worse confounded." It is not the fact that "the poor are becoming poorer." It is doubtful whether the rich, as a whole, are becoming richer. If statistics prove anything, they certainly prove that Lamartine was entirely in error when he maintained that "the working-classes find themselves now in a worse position than they ever were placed in before;" and when he added that "they will agitate society until communism has succeeded to odious individualism," he incited to a conclusion which his premisses failed to justify.

Let us, however, proceed to apply to the economic condition of the population of England the only true test whereby their better or worse circumstances can be determined—that of numbers. There exists a great mass of materials adapted to the solution of this problem, none of them capable of mathematical demonstration, but most of them bearing the impress of reliability to an extent sufficient to justify their use.

One of the most interesting calculations of the comparative circumstances, as regards income, of the population of this country was that made to Parliament in 1821. In this return, the 2,941,383 families then composing the population of the United Kingdom, were divided into 28 classes, the annual income of each of which was calculated, with its order of application, under the four several heads of expenditure in agricul-

ture, or natural production; manufactures, or artificial production; rates, taxes, &c.; and surplus.

According to this return, 34 per cent. of all the families resident in the United Kingdom in 1821 had an annual income of £25, or less, while 85 per cent. had an annual income not exceeding £42. It was assumed that the whole of this latter proportion was not in a position to accumulate any wealth, having no surplus available after satisfying their essential wants. The total annual income of these 2,500,000 families was returned as 105 millions sterling.

In the next category—that of families with incomes varying from £100 to £1000—the total number returned was 384,000, or 13 per cent. of all the families in the kingdom, and the total amount of their annual income was 180 millions, being at the rate of about £470 per annum. The surplus income or savings of this class was estimated at 12 millions sterling, or about £31 per family.

The remainder, of about 57,000 families, was estimated to have a total income of 195 millions, or about £3400 per family.[1] The annual savings of this group is calculated at 13 millions sterling, being an average of about £227 per family.

The synthetical exposition of this return comes then to this—that the total income of the population of Great Britain in 1821 amounted to 480 millions sterling, being an average of £166 per family, which amount is estimated to have been appropriated thus:—

| | |
|---|---|
| Expended on agricultural products . . . | 240 millions. |
| „ on manufactured products . | 147 „ |
| „ on taxation, tithes, rates, &c. . | 68 „ |
| Surplus remaining . . . . . | 25 „ |
| Total . . . . | 480 millions. |

This total is different from that which some statistical

[1] 33 families had over £100,000 each per annum.

writers have calculated as the wealth of the country at or about the period in question. Mulhall, for example, gives the total income for Great Britain in 1822—a year later—at 280 millions.[1] But this latter figure does not appear to tally with the known circumstances of agriculture and industry at the period to which it relates. The average price of wheat—then the staple agricultural commodity in England—was not less than 86s. per quarter between 1801 and 1820. From 1821 to 1850 it averaged 57s. per quarter. The then average yield per acre may be taken at about 24 bushels, and at the last-named, or lower price, assuming the whole acreage then cultivated to be under wheat, or its equivalent value, the actual annual income from agriculture alone would be over 300 millions sterling a year.[2] But as it is probable that all the acreage under cultivation would not yield the same profit as wheat lands, a deduction must be made for the difference so occurring, and if a liberal amount is allowed for this purpose, there would still remain a large sum in excess of the figures just quoted.

From the period from which we have started with this inquiry, a great change has continuously been going on in the conditions of the national income, not of England alone, but of all the other leading countries of the world as well. During the first quarter of the nineteenth century, agriculture was the staple source of income all over the world, not even excepting a single European country. In most countries agriculture is still the staple source of wealth. But in some half-a-dozen countries, the value of manufactures has meanwhile risen to so high a figure that it has left that of agriculture far behind. This is more particularly the case in our own

[1] Dictionary of Statistics—"Income."

[2] The total acreage under cultivation in Great Britain in 1821 is stated at 40 million acres, and the produce is returned as worth an average of £6 an acre, which is probably a true figure.

country, where the annual income from agriculture is now variously reckoned at 200 to 250 millions, and from commerce and industry, excluding agriculture, at 981 millions. It is the case, also, though to a less degree, in France, where the annual value of agricultural products is returned at 400 millions sterling, or 60 per cent. more than in the United Kingdom, while the annual value of commerce and manufactures is estimated at only 521 millions sterling, being 46 per cent. less than in this country. In Belgium the annual value of manufactures is 30 millions sterling, or 66 per cent. in excess of that of agriculture, while in Holland, Switzerland, and Greece, the same condition of manufacturing superiority is recorded. Passing beyond the limits of the European Continent, we find that countries which are so distinctively associated with agricultural products as Canada and the United States are increasing their manufactures to such an extent that they have already—as regards the former to a very limited, but as regards the latter to a very considerable extent—exceeded the annual value of their purely agricultural productions.

It does not seem as if there were any *data* upon which an unvarying law or economic principle could be founded in reference to the effect upon national income of agricultural products, considered *per se*, or of mixed agriculture and manufactures. Great Britain, which has the greatest manufacturing or industrial income of any nation in the world, has certainly, at the same time, the greatest amount of gross earnings per head of the population, among European countries; but the ratio of income *per capita* is greater still in our Australian colonies, which are almost exclusively agricultural. France, Belgium, and Holland, whose manufactures exceed their agriculture in value, have the next greatest gross income per inhabitant after England, but all of them have a less income than the United States and Canada, where agriculture forms a much more prominent source of the national earnings. Subject, however, to the limitations

imposed by these exceptions, there is no doubt that the general tendency of an excess of manufactures over agriculture is to raise the average earnings of the population If we take the estimated aggregate earnings of six of the principal European countries—Germany, Russia, Austria Italy, Spain, and Portugal—and divide them by the population, we shall get an average annual income of not more than about £13 per head. If, on the other hand, we adopt the same process with the six principal industrial countries of the world—Great Britain, France, Belgium, Holland, Switzerland, and the United States—we get an average gross income *per capita* of about £25.[1] In the latter case, therefore, the average income is almost double that obtained in the former.

What, now, has been the general result of the growth of agriculture and manufactures in promoting the relative and comparative prosperity of different countries? Has England kept her position in the race for wealth? Has she lost or gained ground, and to what extent? These, again, are criteria which may be brought to the test of actual facts. It is well, moreover, to consider what part of the increased national income has gone to the upper and what part to the working classes—whether, in point of fact, the national income of different countries has become more unequally, or more fairly distributed, and to what extent either kind of variation has taken place in each.

Beginning at the bottom of the ladder, it will be found, on a perusal of another section of this volume—that relating to wages—that the general condition of the working population of this country has, in that regard, undergone great amelioration within the last thirty or forty years. The improved circumstances of the people from this source have enabled them to largely increase their savings, but as this is a matter that is elsewhere dealt

[1] In this computation the average ratio per inhabitant in the United States is taken at £27, 2s., and in the United Kingdom at £35, 2s.

with, it need not be more than mentioned here. It is also to be remarked that the great reductions that have occurred in the prices of commodities have allowed of a much higher purchasing power than formerly, which is equal in its effects to a larger annual income over the whole community, even if the nominal amount had remained unchanged. But the amount has not remained unchanged. On the contrary, as we shall presently see, it has very considerably increased, and the earnings or income of the working classes more even than those of the upper and middle classes.

Let us first consider the relative circumstances of England's industry. Has England maintained her relative position as a manufacturing nation within recent years? In order to throw adequate light on this subject we would require the aid of whole pyramids of figures. But a few statistics may be sufficient to serve our main purpose. According to Mulhall,[1] the value of the manufactures of the world as a whole[2] in 1870 amounted to 2986 millions sterling, of which 642 millions, or 22 per cent., belonged to England and her colonies. In 1880 the value of the manufactures of the same countries had grown to 3544 millions, of which 758 millions belonged to the English empire. In the interval the manufactures of England and her colonies had increased by 136 millions, or about 20 per cent., while those of all the rest of the world, excluding the United States, had increased by no more than 216 millions, or about 13 per cent. The case of the United States is altogether exceptional. Mr. Mulhall's figures show that the aggregate value of the manufactures of that country was 682 millions in 1870, being 6 per cent. more than that of the United Kingdom for the same year, and 888 millions, or 17 per cent.

[1] "Balance-Sheet of the World," p. 18.

[2] Although so expressed by Mr. Mulhall, the figures do not embrace many countries in Africa, South America, &c., of which the statistics are not available.

more than that of the United Kingdom in 1880. But these figures, however arrived at, do not correspond with those which have been ascertained by the enumeration of the Tenth Census of the United States, which show that between 1879 and 1880 the gross value of the manufactured products of that country had increased from 677 to 1074 millions of pounds,[1] while their nett value had been raised from 279 to 394 millions of pounds. Mr. Mulhall's work was, of course, issued before these official returns were available, and it is therefore to be presumed that his figures are a computation, but the estimate is ludicrously wide of the mark, whether considered with reference to the gross or the nett value of the total manufactured products of the country; and arguing from the known to the unknown, it is important that we should not too implicitly accept figures of this description. But after every deduction has been made in respect of possible margin of error, there is ample reason to conclude that England's manufacturing interests have grown in a measure that has far outstripped the growth of every other modern country, excepting only, as before stated, the American nation.[2]

[1] Converting the dollar at 4s.

[2] The following table shows the comparative progress of England and the three chief competing nations of the world in commerce and manufactures in 1870 and 1880, expressed in millions sterling:—

| | England. | | France. | | Germany. | | United States. | |
|---|---|---|---|---|---|---|---|---|
| | 1870. | 1880. | 1870. | 1880. | 1870. | 1880. | 1870. | 1880. |
| Commerce . . . | 547 | 692 | 249 | 332 | 270 | 384 | 172 | 301 |
| Manufactures . . | 642 | 758 | 439 | 485 | 341 | 427 | 677 | 1074 |
| Mining . . . . | 46 | 65 | 9 | 12 | 14 | 21 | 38 | 72 |
| Agriculture . . | 260 | 240 | 412 | 400 | 310 | 340 | 415 | 525 |
| Carrying trade . | 78 | 121 | 33 | 50 | 38 | 64 | 115 | 141 |
| Banking . . . | 80 | 108 | 30 | 34 | 25 | 28 | 40 | 52 |
| Sundries . . . | 34 | 40 | 9 | 12 | 4 | 5 | 17 | 25 |
| Totals . . . | 1687 | 2024 | 1181 | 1325 | 1002 | 1269 | 1474 | 2190 |

During the decade 1870–80 the increase in the annual value of the trade and manufactures, &c., of the four chief countries of the world has been as under—

| | | |
|---|---|---|
| United Kingdom | 337 | millions sterling. |
| France | 144 | ,, |
| Germany | 267 | ,, |
| United States | 716 | ,, |

One of the first considerations occurring on an examination of the above figures is the enormous increase in the value of agriculture in the United States—27 per cent. within ten years—compared with the progress made in the United Kingdom. England, indeed, has lost ground, both absolutely and relatively, in her agricultural resources, but it will be observed that in this respect she is not altogether alone, as France has shown the same tendency, though in a somewhat modified degree; while the increase of 30 millions shown in the agricultural products of Germany, may not only be entirely due to the acquisition of Alsace-Lorraine, but it is possible that within the same geographical limits she would be found to have shown a material decline, for precisely the same reasons as the United Kingdom. For it is important to observe, that the decreased value of agricultural products in European countries is not due to decreased efficiency in working, or diminished fertility of soil, but to the greatly reduced value of cereals, and, to a lesser extent, of other products, consequent upon the competition of the United States and the Colonies.

Many computations have been made of the proportions of the national income that fall to the upper and the working classes respectively. It would be impossible to exaggerate the value of such information if it were capable of being correctly ascertained. There can be no truer test of a nation's prosperity than the comparative absence of poverty. A country that excels in this respect is far more likely to be prosperous and contented

than one that shows extremes of poverty and wealth. It is often contended that the latter is a condition characteristic of England; and if it be urged that the poverty that exists in our midst is more obvious by reason of its strong contrast with our great display of wealth, this is no doubt the case. But it is altogether an error to suppose that the English people are poorer than others, so far as those who labour for their daily bread are concerned. On the contrary, the working classes of England, as a whole, have a larger annual income than those of any other nation in Europe.

The amount of the annual income of the working classes of this country has been calculated by various students, but invariably on data in which there was such a want of correspondence as to make anything like a satisfactory conclusion impossible. In a paper which the author submitted to the Statistical Society in December 1884, he estimated it at over 535 millions, being an average of about £42 per head. Professor Levi, some months later, calculated the amount at substantially the same figure per head, though different as to the total, on account of differences in the numbers embraced in the calculation. On either showing, the proportion of the whole national income accruing to the working classes would probably not be less than 52 per cent. In our twenty-sixth chapter we have something more to say concerning the growth of the wealth of our own country, with special reference to that of the United States.

In looking into the subject of national wealth, it is natural to ask—Why is England so rich and India so poor? This is an economic problem that can only be solved satisfactorily by being brought to the test of figures. A first step towards its solution is that of estimating the actual value of the produce of the land—the original and most important source of wealth—in both countries. The total annual value of the products of

agriculture in the United Kingdom has been estimated by Sir James Caird at 260 millions. In 1880, the value of the products of English mining, which are also drawn, like agriculture, direct from the soil, is stated to have been:—

| | |
|---|---|
| Coal | £47,000,000 |
| Tin | 670,000 |
| Lead | 850,000 |
| Iron ore | 7,000,000 |
| Salt | 1,320,000 |
| Copper | 686,000 |
| Total | £57,526,000 |

The total annual value of the produce of British agriculture and mining may therefore be set down at about 317 millions sterling, being an average of about £9 per head of the population. The aggregate annual value of British manufactures has been estimated at 923 millions more, or £26.4 per head of the population. But in India the income of the people is derived almost exclusively from land. What the value of such produce is, it would be very difficult to calculate. But it is by no means difficult to understand that it is far from equal in value to the produce of the United Kingdom, for India has hitherto done little or nothing to develop her great mineral resources, and the value of such agricultural produce as she raises is extremely small, measure for measure, by comparison with that raised in the United Kingdom, owing partly to the high purchasing power of money,[1] and partly to the absence of markets for the greater part of the crops produced. In 1870, a writer on Indian agriculture[2] calculated that the total value of her agricultural produce was only 200 millions,

[1] The value of Indian agricultural produce per acre has been estimated at 12 rupees (say 22s.) in the Central Provinces and the Punjaub. In the United Kingdom, if we assume only 24 bushels of wheat to the acre, and the value of the wheat to be only 40s. per quarter, we have an average value of £6 per acre, or 445 per cent. more than the average of India.

[2] Paper read by D. Naoroji before the East India Association.

or about 27s. per head of the population, and that 100 millions more would represent the total annual value of Indian industries, &c., giving a gross aggregate of only 40s. per head of the population, against an average income of over £35 per head of the population in the United Kingdom. In 1876, the same writer made a second computation of the total income of British India from all sources, in which he raised the value of agricultural products to 260 millions; while the value of salt, opium, coal, and profits of commerce was put down at 17 millions, the value of manufacturing industry at 17 millions, and the value of fish and stock, &c., at 15 millions more; which, with a further 30 millions added for contingencies, made up a total value of 340 millions, or 40s. a head for a population of 170 millions for an average good season.[1] On the other hand, it is, of course, to be remembered that the natives of India live on a diet that is both meagre and inexpensive. The Bombay Price Commission calculated the wants of the lowest Government servants in the Poonah district in 1863 at about 6½ rupees (say 10s.) per month. In 1870, the scale of diet proposed for coolie emigrants was equal to an expenditure of rather over 5 rupees per month. In the jails of India, the bare cost of living varies from 18½ rupees in the North-West Provinces to about 42 rupees in Bombay. On comparing the actual produce of the soil with the bare cost of living, the author already quoted remarks that "even for such food and clothing as a criminal obtains, there is hardly enough of production even in a good season," and that the masses of India "do not get sufficient to provide the bare necessaries of life."

[1] "Poverty of India," by N. Naoroji. London, 1878.

## CHAPTER XXII.

### *ON THE EXTENT AND THE EFFECT OF THE INDUSTRIAL EMPLOYMENT OF WOMEN.*

THE influence of the competition of women with men in trades and manufactures, as bearing on the subject of national prosperity, may not, at the first blush, be perfectly manifest. For this reason, there may be those who regard the treatment of this question in a work of the scope and character of the present, as being somewhat far-fetched, if not altogether irrelevant. But a little further reflection may possibly tend to modify such a view of the case. For if it should be found that two countries are possessed of much the same natural resources, and are practically equipped to approximately the same extent for the race which all civilised nations are now running for industrial supremacy except in the matter of the relative proportions of male and female labour, it is not at all impossible that this single item of difference may determine the ultimate result. It is obvious that the differences in the rate of remuneration, and in the relative efficiency of women, must, under any circumstances, exercise a considerable influence.

There is, however, another, and a still more important aspect of this question to be considered. It may be true that a nation which employs a very large proportion of women in industrial handicrafts is enabled, by that circumstance, to obtain and to maintain an industrial superiority not otherwise possible. But if it should be found, on the other hand, that a resort to female labour on a large scale is necessary in one nation, and is not so

essential in another in order to the upholding of their several industrial positions, it will generally be admitted that the most satisfactory and the most solid supremacy is that of the nation whose women are not dragged from their more proper and natural sphere, in order that they may share with men in the drudgery of farm, factory, and mine. In short, it will generally be ascertained that the highest degree of prosperity is in an inverse proportion to the largest amount of female labour, and that the highest degree of civilisation is generally compatible with the lowest number of female operatives in trades and manufactures. It may reasonably be contended, however, that the most general admission of women into the learned professions is at once a proof and a result of high civilisation and national prosperity.

Of the 13,334,000 females registered as living in England and Wales in 1881, 9,930,000, or about 75 per cent., are stated to belong to the indefinite and non-productive class. In this category will be included practically the whole of the 4,739,000 girls who were under the age of 15 years, leaving 5,191,000 to be otherwise accounted for. If it were proper to class as "indefinite and non-productive" all women who are married, this remainder would be reduced to very small proportions indeed, seeing that 4,437,000 are returned as belonging to that state. But this would not by any means meet the case. A very large number—too large a number, unfortunately—of married women, in the manufacturing districts especially, work as regularly in the mill or factory—in "charring" or otherwise—as their husbands, so that it is impossible to relegate all married women to the class in question. On the other hand, the remainder to be accounted for is much too numerous to be fully taken up by the class of daughters residing with their parents.

It is not, however, with the "indefinite and non-productive" class of women that we have to deal, so much as with the 3,404,000, or 26 per cent. of the

whole, who belong to the ranks of the wage-earning population. Of this large number, according to the census returns of 1881—

| | | | |
|---|---|---|---|
| 196,000, or 5.8 | per cent., | were employed in | professions. |
| 1,545,000, or 45 | „ | „ | domestic service. |
| 19,000, or 0.6 | „ | „ | commerce. |
| 65,000, or 1.9 | „ | „ | agriculture, &c. |
| 1,578,000, or 46 | „ | „ | manufactures, &c. |

Domestic service and manufactures, therefore, absorb 3,123,000, or nearly 92 per cent. of the whole productive female population of the country. Of the former there is little to be said. The conditions of domestic service are everywhere much the same. It may, however, be remarked, that during the twenty years ending 1881, the total number of females employed in this capacity increased by 474,000, or 44 per cent., while the increase in the female population, as a whole, was 3,045,000, or 29 per cent. This fact may safely be taken to indicate the more general employment of domestics, and, consequently, the more general prosperity of the country.

People, generally, are probably quite unaware of the extent to which female labour supplements and comes more or less into competition with that of man in the industries of this country. There are two hundred and eighty distinct industries tabulated in the Census Reports for 1881. Of that number there are only twenty in which no female labour appears to be employed, and as the number is so limited, it may not be out of place to enter a record of those exceptions, which are as under:—

| | |
|---|---|
| Millwrights. | Well-sinkers. |
| Fitters and turners. | Paviors. |
| Boiler-makers. | Road contractors and surveyors. |
| Ship carpenters. | Road labourers. |
| Thatchers. | Railway contractors. |
| Coalheavers. | Plate-layers. |
| Gaswork service. | Navvies. |
| Stone-quarriers. | Engine-drivers. |
| Stone-dressers. | Town drainage service. |
| Slate-quarriers. | Gold and silver beaters. |

In the last census of the United States, the industrial or manufacturing occupations are differently classified, and number only one hundred and thirty-five, of which thirty-three employ no female labour whatever.

In considering the extent to which female labour is employed in different countries or localities, it is of the highest importance to bear in mind the character of the occupations in which such labour is found, as well as the aggregate extent of its employment. A nation that allowed, say, 10 per cent. of its female population to be employed in brick-yards, or coal-mines, or iron-works, would do more to degrade its womankind, and would show a lower appreciation of the functions of womanhood, than another in which, say, 50 or 60 per cent. of the female population was engaged in duties for which they are specially fitted, and which are calculated to maintain the respect that nations are accustomed to pay to womankind in proportion to the extent of their civilisation. Probably, however, we are here entering upon debatable ground; for no two individuals, much less any two nations, will be found perfectly in accord as to what labour is calculated to degrade, and what to dignify, womankind.

Among the many rough and arduous occupations for which we should imagine women to be but little fitted, there is probably none that will be regarded as being so inconsistent with the proper functions of our female population as that of mining. And yet it is the fact that in 1881 no fewer than 5775 females were so employed in Great Britain. This number is, of course, but a very small percentage of the total employed in the mining industries of the country—not more than 1.1 per cent.—but it is much larger than the number of females so employed in the United States, where in 1880, out of 234,000 persons employed in and about mines, only 79 were females.

Those of us who desire to see women removed from

all occupations that have a tendency, if not to unsex them, at any rate to diminish their womanly instincts and attributes, will be glad to find that in our own country, the proportion of females employed in mining has of late shown a considerable decrease. In 1861, no less than 16,805 females were employed in and about the coal, copper, tin, lead, and salt mines of England and Wales, out of a total of about 410,000 miners of all kinds, being about 4 per cent. of the whole. We can, therefore, claim that in the interval we have made considerable progress in the right direction, although it could be wished that women were not in any way brought into contact with the (to them) degrading conditions of such labour. If we have any consolation in the matter at all, it is that while we are still much worse than the United States, we are better than some other European nations. In Belgium, out of a total of 103,000 operatives of all kinds employed about coal mines in 1883, no less than 13,685 were of the female sex. Of that number, 5500 were girls under the age of 16 years.

In what are commonly known as the building trades, the condition of things as regards female labour has very much changed for the better within the last twenty years. In 1861, out of a total of 505,000 persons employed about houses and buildings, over 2500 were females. In 1881, however, only 1388 women were engaged in this class of occupations, out of a total of over 666,000. The percentage proportion of females so employed has therefore fallen from 4.9 per cent. in the former to 0.1 per cent. in the latter year.

It will probably appear a little curious to many that no less than about 14,000 females, out of a total of 267,000 *employés*, are engaged in working and dealing in machines and implements. This generally involves hard and arduous, although not necessarily degrading labour for women. On the contrary, some of the mechanical trades, such as watch, philosophical, and musical-

instrument making, involves a considerable degree of skill and ability. The largest number of females in this order are engaged under the heading of "tools and implements" —8925 out of 48,556; and the next largest number—1899 out of 4864—is found under the heading of "tackle for sports and games." The 224 women who are engaged in the warlike manufacture of "arms and ordnance," will no doubt be employed mainly in gunsmiths' shops in country towns, and need not be sought for in the factories of Woolwich and Enfield. It may be added, that the number of females employed in machine and tool making has increased absolutely, but not relatively, since 1861. In that year 6646, out of a total of 117,000, were of the female sex, against 9987, out of a total of 209,000, in 1881.

In the United States, women engage in the mechanical trades to a very limited extent indeed. Of 101,000 persons returned as machinists in 1880, not one was a female. Of 13,749 tool and cutlery makers, 535 were females; and in many allied industries, as wheelwrights, stove, furnace, and grate makers, steam-boiler makers, pump-makers, &c., no female labour whatever is employed.

The circumstances of the Continent of Europe, and especially Belgium, as regards the conditions of female employment, are much less satisfactory than those already described. In that country, the males are in a majority, to the extent of over 52,000, in a population of 5,600,000. But of the 2,786,000 females in the country, 961,000 or 34 per cent. are engaged in occupations of different kinds, as compared with only 26 per cent. so employed in this country. This difference becomes all the more remarkable, when we reflect that domestic service and the textile industries, which employ together 63 per cent. of the wage-earning female population of this country, only find employment in Belgium for 43 per cent. of the women who work for wages. The truth is that in Belgium women are allowed and required

to do much more severe labour than in this country. They are largely to be found engaged in the heavy manufactures of the country, such as ironworks, machine-shops, arms and ordnance factories, building operations, &c.; and in work that we are properly disposed to regard as almost entirely pertaining to women—such as domestic service, &c.—they are largely required to compete with male labour.

We will now proceed to consider the subject of female labour in relation to agriculture, more especially in the two countries already so largely compared—England and the United States.

Agriculture being the staple industry of the United States, it is natural to expect that a larger proportion of the population, both male and female, will be found employed in that occupation than in any other; and so it is. The total number of persons returned as employed in *all* occupations in 1880 was 17,392,000. Of that number, 14,744,000 were males and 2,647,000 were females, so that female labour represented about 15 per cent. of the whole. The total number of both sexes engaged in agriculture in the United States was 7,670,060, or 41 per cent. of the whole. But when we come to look into the special circumstances of the agricultural population, we find that not less than about 48 per cent., or nearly one-half of the whole of the males returned as following specified occupations in the United States, were engaged in that particular pursuit, while only 23 per cent. of the wage-earning female population was so employed.

A closer analysis of the figures shows, however, that the status of female agriculturists in the United States is by no means so good as that of the other sex, for it appears that while 4,169,000 of the 7,075,000 males employed in agriculture occupied the position of "farmers and planters," or, in other words, were employers of their

own or other labour—only 56,000 of the 594,000 females engaged in agriculture occupied that position. Put in another way, it comes out that of those employed in agriculture as labourers or wage-earners, 19 per cent. were females, while of those returned as employers, only 1.3 per cent. were of the gentler sex.

It is not without interest to compare these figures with those that represent the condition of things in a country so differently situated in many respects as our own.

The total number of persons returned in 1881 as engaged in all agricultural operations, including gardening, in the United Kingdom was 1,383,000, of which 1,318,000 were males, and 64,800 were females. The total number of persons returned as following specified occupations in the same year was 11,188,000, so that only 12 per cent. of the whole was engaged in agriculture, against 41 per cent. in the United States. The proportion of females engaged in British agriculture was only 5 per cent. of the whole.

When, however, we come to subdivide the totals into the two leading classes of "farmers and graziers" and "agricultural labourers," it comes out that 9.8 per cent. of the females engaged in the occupation presided over by Ceres belonged to the former class, and less than 5 per cent. belonged to the latter. The numbers employed in agriculture alone, not including gardeners, &c., are appended—

| | Males. | Females. |
|---|---|---|
| Farmers and graziers . . . | 203,329 | 20,614 |
| Agricultural labourers, &c. . | 807,608 | 40,346 |
| Totals . . . | 1,010,937 | 60,960 |

From which it would appear that in the mother country the proportion of female to male labour is much less than in the United States of America.

This conclusion, though really accurate, is yet subject to certain explanations and modifications which tend to limit its force. The most important of these is the difference that exists in reference to the employment of

the coloured as distinguished from the white population. Upon this point a few remarks may be permitted.

The census returns show that in 1880 there were 6,580,000 coloured people in the United States, of whom 3,253,000 were males, and 3,327,000 were females. The negro population is chiefly found in the States of Alabama, Louisiana, Mississippi, North and South Carolina, and Virginia. In these States the proportions of males and females engaged in the two principal classes of occupations—agriculture, and professional and personal services—were as under:—

| State. | Engaged in Agriculture. | | Engaged in Personal Services, &c. | |
|---|---|---|---|---|
| | Males. | Females. | Males. | Females. |
| Alabama . . . . | 291,000 | 89,000 | 72,000 | 41,000 |
| Georgia . . . . . | 329,000 | 102,000 | 104,000 | 62,000 |
| Louisiana . . . . | 147,000 | 57,000 | 66,000 | 31,000 |
| Mississippi . . . . | 252,000 | 87,000 | 28,000 | 20,000 |
| North Carolina . . . | 314,000 | 46,000 | 34,000 | 34,000 |
| South do. . . . . | 208,000 | 85,000 | 34,000 | 29,000 |
| Virginia . . . . | 238,000 | 15,000 | 87,000 | 58,000 |
| Totals . . | 1,779,000 | 481,000 | 425,000 | 275,000 |

Here, then, we find that if the chief negro-employing States are eliminated, so far as regards the two items of agriculture and personal and professional services, the average percentage of females employed in the United States would be considerably reduced, the average percentage of female labour rising from 15 per cent. to 26 per cent. of the whole in the cases under consideration.

In the agriculture of the United States female labour may be said to be employed almost exclusively in the seven negro-employing States just considered, for we find that while the total number of females returned as "agricultural labourers" throughout the whole country was 534,900, not less than 481,000, or 90 per cent. of the whole, are found in the States above specified. From

this fact it would seem to follow that in the Northern and Eastern States women are not called upon to any considerable extent to engage in field labour—and certainly not to anything like the same extent that they are so employed in England, where 5 per cent. of the whole operative agricultural population belong to the female sex.

It now behoves us to examine briefly the comparative extent to which women enter professional occupations in different countries.

In attempting to institute a comparison between the United States and our own country in so far as professional occupations are concerned, we are first of all struck with what appears to be the greater facility with which women can take up the so-called learned professions in America. In England, there is not a single case of a female acting as a regular minister or preacher, although 1660 are returned as Scripture-readers, &c.; but in the United States 165, out of a total of 64,533, are returned as *bonâ fide* "clergymen." Then again, in reference to medicine we find only 25 out of a total of 15,091 are returned as in actual practice as physicians or surgeons in England, while 2432 out of a total of 83,239 are so employed in the United States. In the education of the young, women are far more largely employed than men, both in the United States and with us, but as female teachers are 70 per cent. of the whole in England against only 67 per cent. in the United States, it follows that they are even more largely employed here than there. Coming to more strictly literary pursuits, it would appear as if the number of those who made their bread by literature was far larger in the United States than on this side of the Atlantic. The census returns for England and Wales give a total of 6121 of both sexes for this class, against a total of 13,151 returned for the United States. But the number of females belonging to this category is proportionately higher in England, where it is 467, than in the United States, where it is only 608.

If there is one class of employment more than another for which women are fitted by taste and disposition, it is probably that of clerks. In this occupation the work is light and easy, the hours generally are not too long, and if the remuneration is usually small, it is at least as large as in most of the other pursuits open to the female sex. In the United States, there are employed in general and Government offices, hotels, and stores, an army of 406,000 clerks, of which 27,581, or 6.6 per cent., are females. In England and Wales, the census authorities divide this class into civil service and commercial clerks. Of the former there are altogether 25,568, of whom 3216, or 12 per cent., are females. Of the latter, the aggregate number is 181,475, of whom only 5989, or 2.7 per cent., are females.

It is evident from these figures that the Government (and especially the Post-Office authorities) encourages female clerical labour more largely than the general public. Nor is it, perhaps, surprising—at any rate, to those who know how cheaply clerical labour can be purchased—that women do not make more headway in this direction than they do. As it is, female labour has made progress even in this already far too male-glutted field. In 1861, out of a total of 55,657 commercial clerks, not more than 274, or 0.5 per cent., were females, against 2.7 per cent. in 1881, while in the Civil Service the number of females employed advanced in the same period from 1822 to 5989.

In Continental countries, female labour is much less extensively employed in professional work than in either England or the United States. In France only 151,000, or 0.91 per cent. of the whole working population, embracing both males and females, are so employed; in Prussia, 124,000, or 1.1 per cent.; and in Austria, the number returned is only 28,500, or 0.25 per cent. of the operative population; while in Russia and Turkey the proportion of women so employed is smaller still, and the

proportion engaged in manual labour rises to a higher figure.

The statistical aspect of this question may be appropriately concluded by the presentation of the following summary of the total number of females employed in industrial occupations, relatively to the total number of both sexes so employed in the principal countries of the world:—

| | Total Industrial Workers. | Of which there are Females. | Percentage Proportion of Females. |
|---|---|---|---|
| United Kingdom . . | 7,997,529 | 2,005,304 | 25 |
| United States . . . | 3,837,112 | 631,079 | 16 |
| France . . . . | 4,465,000 | 1,565,000 | 35 |
| Prussia . . . . | 3,650,000 | 583,000 | 16 |
| Austria . . . . | 2,279,000 | 964,500 | 42 |

The facts and figures that have been collated in this chapter speak for themselves. They show that England occupies an intermediate position between the United States and the Continent of Europe, in reference to the numbers of women employed in industrial occupations, just as, though not by any obvious correlation, her position in reference to the average rates of wages paid to industrial labour is midway between these two termini. They prove also that the employment of female labour in this country leaves much to be desired. It can scarcely be accepted as a satisfactory condition of things, when females are allowed to labour in twenty-four per cent. of the whole of the industries tabulated in our census reports, as compared with only 7 per cent. of the industries followed on the other side of the Atlantic. That England is tending towards the position now occupied by her illustrious Transatlantic descendant is, however, made sufficiently clear by the considerations stated. Whether her industrial efficiency and superiority will thereby become in any degree impaired remains to be

proved. Of the many handicrafts followed in both countries alike, there is good reason to believe that some are followed more economically in England by reason of the larger employment of female labour. This is more particularly true of the textile industries, in most of which women, while receiving considerably less remuneration, can render as efficient service as the opposite sex.[1] But it is much less likely to be true of other industries, and especially of mining and mechanical industries, in which sheer strength and endurance are important factors in the determination of relative efficiency. In a general way, it is undoubtedly true that the extensive employment of female labour tends to reduce and to keep down the average rate of wages. In France and Austria, where women are more generally employed than in England or the United States, labour is less highly remunerated all round, and least of all in the State where the greatest proportion of women are to be found in the ranks of industry. But England has not hitherto suffered in any material degree from the consideration just stated. In spite of the higher range of wages generally paid in our own country, and the more limited employment of female relatively to male labour, we are not threatened so much by countries in which the converse state of things applies, as by newer countries, where female labour is less resorted to, and the average rate of wages is higher than in our own.

[1] Belgium may be cited as an example of the inability of a country that employs a majority of men in textile trades to compete with countries in which the female workers predominate. In Belgium, of 88,522 persons of both sexes employed in the cotton trade, only 26,624, or 29 per cent. of the whole, were females, according to the census of 1884. In England, on the other hand, as many as 355,323, out of a total of 586,470, or 60 per cent. of the whole number engaged in the cotton industry in 1881, belonged to the female sex; while in the United States, out of a total of 169,771 so employed, 91,479, or 53 per cent., were females. It seems reasonable to suppose that in Belgium, where labour is so cheap, the larger employment of women would enable the country to take a much more prominent position in regard to cotton supply.

# CHAPTER XXIII.

## *ENGLAND'S COAL SUPPLIES.*

"The day when the advantage of cheap coal shall be lost to us for ever must arrive. Economy may retard but cannot hinder its arrival. If we begin and continue to save consumption steadily and at once, it will come late; if we do not it will come soon, and we shall apparently only be driven to those economising contrivances and habits which will keep it cheap by its becoming or remaining dear. Other countries—notably, our most formidable rival, the United States—have supplies of coal incomparably larger than our own, and can raise that coal at a decidedly lower cost; and coal is at once so indispensable, so primary, and so bulky an article, that it transfers the industrial sceptre of the world to the land where it is found in the greatest abundance and at the lowest price."—W. R. GREG'S "*Rocks Ahead.*"

"When the expense of working British coal mines leaves no remuneration to the capital and labour employed, when brought into competition with the mines of other countries, then will they be as effectually lost to Britain for purposes of ascendancy, and their produce as exports, as if no longer in physical existence; and her superiority in the mechanical arts and manufactures, *cæteris paribus*, it may well be feared, will be superseded."—*Report of the South Shields Committee on Coal Mines*, 1843.

"The absolute amount of coal in the country rather affects the height to which we shall rise, than the time for which we shall enjoy the happy prosperity of progress."—W. S. JEVONS *on* "*The Coal Question.*"

IT has been as much the custom of some writers to exaggerate as it has been that of others to depreciate the importance of her supplies of coals as a source of England's industrial supremacy. While coal is undoubtedly one of the most important adjuncts of manufacturing prestige and material prosperity, it is probably too much to affirm that it is the be-all and the end-all of these desiderata. Nations that have no coal supplies of

their own have achieved industrial eminence, as we have already seen in the case of Switzerland. Other nations, possessed of enormous stores of the same valuable mineral, have lagged far behind in the race for supremacy, as witness Russia, China, and India. There are other countries, again, such as France, that have supplemented their own scanty or unsuitable supplies of coal by imports from other countries, and have continued, even under this stern necessity, to enjoy a large amount of material progress. But all these cases are more or less exceptional in character. All other things being equal, the nation that has the largest, the cheapest, and the most varied supplies of coal is undoubtedly the best equipped for the industrial race, and is the most likely to excel therein.

This truth is not more obvious than its corollary, that England's pride of place as an industrial nation is due very largely to her exceptional advantages as a coal-owning and coal-producing country. It is quite possible that the distinguishing qualities of the Anglo-Saxon race would enable England to keep well to the front, even if her coal supplies were much inferior to what they are; but the conditions of her supremacy in such a case would be very much harder to meet, and her pre-eminence would be likely to proceed on different lines.

For the reasons just stated, it is necessary that we should examine the character of the tenure by which we hold this potent element of our country's weal. It is by no means the first time that such an inquiry has been attempted. It is, indeed, scarcely likely that we shall succeed in shedding much, if any, new light upon the subject. The solution of the problem has been attempted again and again, now in a highly alarmist, and then in a temperate and practical mood; but the danger, whether regarded as near or remote, has always been admitted to be real, and little capable of being ultimately averted.

The most of us can still remember when Sir William Armstrong, at the meeting of the British Association at Newcastle-upon-Tyne, in 1863, called attention to the fact that "we have already drawn from our choicest mines a far larger quantity of coal than has been raised from all other parts of the world put together; and the time is not very remote when we shall have to encounter the disadvantages of increased cost of working and diminished value of produce."[1]

The conclusion thus arrived at by the then President of the British Association was based upon the fact, that at the end of 1861 "the quantity of coal annually raised in the United Kingdom had reached the enormous total of 86 millions of tons, and that the average annual increase in the eight preceding years amounted to $2\frac{3}{4}$ millions of tons."

Three years later still, Professor Jevons, in his well-known essay on "The Coal Question," entered into an elaborate calculation, based upon the then rate of consumption of coal, which led him to the astounding conclusion that "rather more than a century of our present progress would exhaust our mines to the depth of 4000 feet, or 1500 feet deeper than our present deepest mine."[2] Put in another way, he estimated that "if our consumption of coal continues to multiply for 110 years at the same rate as hitherto, the total amount of coal consumed in the interval will be one hundred thousand millions of tons."

Although his figures brought Mr. Jevons to the above startling results, he did not positively assert that our coalfields would be worked to a depth of 4000 feet in little more than a century. On the contrary, his view was, that we could never advance to the higher amounts of consumption supposed. "But this only means that the check to our progress must become perceptible within

[1] Report of the British Association for 1863.
[2] "The Coal Question," p. 241.

a century from the present time; that the cost of fuel must rise, perhaps within a lifetime, to a rate injurious to our manufacturing and commercial supremacy."[1]

On the 28th June 1866, a Royal Commission was appointed to inquire into the probable extent and duration of the coalfields of the United Kingdom. On the 27th July 1871, that Commission, after having taken a great deal of evidence, and obtained calculations of the probable quantities of coal contained in the known coalfields of the country, reported that the total quantity of coal then available, at a depth of less than 4000 feet, beyond which the mineral could not well be worked, was 146,736 millions of tons, which, calculated on the basis of diminishing ratios, would be exhausted in 360 years, at the end of which period the population of the country would be 131¾ millions. Assuming, however, an increasing consumption in arithmetical ratio, the duration of our coal supplies would be limited to 276 years; while, on the supposition of a non-increasing consumption, the period would be extended to 1273 years.[2] The Commissioners, while admitting that any view of the duration of our coal supplies must be subject to unforeseen contingencies, pointed out that at the then rate of increase of consumption, the progress towards exhaustion would be very rapid.

It is now twenty-two years since Sir William Armstrong uttered his remarkable note of warning at Newcastle; it is nineteen years since Mr. Jevons put forward his most alarming, if not alarmist, theories as to the limited duration of our industrial supremacy; and it is fourteen years since the Royal Commission presided over by the Duke of Argyll reported upon the extent and duration of the coalfields of the United Kingdom. Let us see, then, what has been the course of events in the interval.

[1] "The Coal Question," p. 242.
[2] Report, p. xvii.

At the time at which Sir William Armstrong spoke, as we have already seen, the annual production of coal in this country was 86 millions of tons per annum. In 1883, it was close on 164 millions. In the interval, therefore, it had nearly doubled, the increase being exactly 90 per cent. When Mr. Jevons wrote his famous treatise, the production of coal was at the rate of 92 million tons per annum, so that the increase in the intervening nineteen years has been about 72 millions of tons per annum, or about 78 per cent.; and when the Royal Coal Commission made its valuable report in 1871, the consumption of coal had advanced to 109 millions of tons per annum, so that the increase in the interval of fourteen years has been 55 millions of tons, or 50 per cent. Since 1863, therefore, the annual increase has been at the rate of 4 per cent.; since 1866 (when Mr. Jevons wrote) it has been at the rate of 4.1 per cent.; and since 1870, it has been at the rate of 3.5 per cent.

If we adopt the first of these three rates as that which will probably represent the condition of things in the future, it would lead to numbers, not perhaps so startling as those which some former writers on this subject have adopted, but nevertheless sufficiently remarkable to give us pause in our optimist views of the future.

Assuming an arithmetical rate of increase on our present production of coal, equal to 4 per cent. per annum, our annual output at the end of ten years would be 230 million tons; at the end of twenty years, 295 million tons; and at the end of forty years, 426 million tons. It can scarcely be necessary to add that these figures are not likely to be realised in actual working, for reasons sufficiently fully stated by the Coal Commissioners and Mr. Jevons; but they are within the bounds of possibility, and they are certainly very much under the figures which Mr. Jevons reached as the

probable rate of consumption at the end of that period.[1]

Let us now see what are the resources of coal still left to us, after considering the extent to which our coal-fields have already been depleted.

It is very difficult to estimate the quantities of coal extracted from our coal-beds previous to the beginning of the present century. Mr. Jevons has calculated that from 1781—when our annual consumption of coal was only about 5 millions of tons, or about one thirty-third of our present annual production,—to 1853, the total quantity of coal extracted was about 1437 millions. Since then, the actual ascertained consumption to the end of 1883 has been about 3242 million tons, so that the total production of coal from our coal seams, since the epoch of Watt's steam-engine and the coal-burning blast furnace, has been 4679 millions of tons.

It may be remarked, however, that if, over the whole of that period, our present annual consumption had been maintained, the aggregate quantity of coal extracted would have been, not 4679 millions, but 15,908 millions of tons, or nearly 3½ times as much.

The Royal Coal Commission of 1871 calculated that our coal supplies still available at less than 4000 feet of depth reached a total of 146,736 million tons. Since then (1870) 1875 millions of tons of coal have been extracted from our coalfields, so that the present available supply cannot be taken to be more than 144,861 millions of tons, which, at the present annual rate of consumption, would last for 888 years; but at the rate of consumption which we have estimated as probable for twenty years hence, would last for a much shorter period.

[1] Mr. Jevons found that the average annual rate of growth of our coal consumption for the ten years ending 1864 was 3½ per cent., whence he deduced, by logarithmic calculation, that in 58 years the increase would be 458 per cent.; or, in other words, that, in 1921, our output would be 658.6 million tons per annum.

Nothing is more common than to hear it argued that as additional means of economy are continually being devised, the calorific effect of coal is likely to be much more fully realised, and that the present rate of increase will therefore be diminished. It is worth while to examine the facts of the case from this point of view.

The coal consumption of the United Kingdom may roughly be distributed under four different heads, namely—

1. Domestic consumption.
2. Export.
3. General manufactures.
4. The shipping trade.

There are unfortunately no *data* whereby we can fix the proportions of our coal consumption which each of these different sources absorbs, the only official figures to which we have access being those that relate to exports. There are, however, certain criteria whereby it is possible, in a rough-and-ready fashion, to fix the quantities of coal that may fairly be assigned to each.

*Domestic consumption* has been, and, so long as coal continues to remain fairly cheap, will probably always continue to be, a constantly increasing quantity. Notwithstanding the innumerable specifics put forward as substitutes for the domestic fire, none of them have come into general use. The English preference for an open hearth has not been broken down, and it does not at present look as if it ever would be.[1] The quantity of coal applied to home purposes has been calculated by the Coal Commission of 1866–71 at 3.9636 tons per head of the whole population of Great Britain.

There is but little reason to suppose that the average will fall below this sum until the growing scarcity and

[1] The late Sir William Siemens, who devoted much attention to the waste of fuel in domestic use, calculated that the greater part of the calorific power of all the coal so consumed was entirely lost.

dearness of fossil fuel compels us as a nation to look for substitutes. When that day does come, our danger will be very real indeed.

*The exports of English coal* have increased within recent years at a truly amazing rate, having almost doubled within the last fifteen years. In 1870 our exports of coal amounted to about 11 per cent. of the whole quantity raised. In 1884 the exports were 14 per cent. of our total output. England now annually exports considerably more coal than the total quantity raised in the early part of the century. The question whether this condition of things should be allowed to continue has been much debated. There are those who urge that it would be desirable to reimpose the duties which until 1831 were levied on exported coal. Such a course would probably limit the quantity exported, if that is a matter to be desired. The statistics of the coal trade abundantly justify this conclusion. Between 1821 and 1831 the export duty on coal was reduced from 7s. 6d. to 4s. per ton, and the quantity exported increased from 170,941 tons to 356,419 tons, or 109 per cent. But between 1831 and 1841, with the total repeal of the duty on coal, the quantity exported increased from 356,419 tons to 1,497,197 tons, or 320 per cent. It is certain, however, that any artificial restriction upon this important branch of our commerce would have a sinister influence on our foreign trade generally—that trade which is so largely the very breath of our nostrils. The facilities that now exist for the export of coal may be regarded as the backbone of our shipping trade. This is so obvious as scarcely to need argument. The value of the export coal trade to our shipping interests is much greater than the actual value of the coal itself. Jevons calculated that the difference in favour of the shipowners was as three to two, and he truly added that, if the export of coal were prohibited in this way, "though the greater part of the burden would be borne by the community in

general as the consumers of foreign produce," which we could not then import so cheaply, so that the cost of all imported commodities would be likely to increase, "it would be inflicted through that branch of our industry, our navigation, which is truly the safety and glory of England." Hence, "the inevitable progress of free trade will ever increase the tendency to export coal. . . . Our foreign coal trade has been, is, and will continue to be, an integral part of our system. It is the alpha and omega of our trade."

While, therefore, England's economic principles and immediate interests concur in demanding that there should continue to be free trade in coal, the perpetuation of that system is manifestly, in this regard, hastening the inevitable day of reckoning. If England were meanwhile being largely and rapidly enriched by her commerce in minerals, the case would not appear so bad. But for many years past England has been parting with her fossil fuel for a very inadequate consideration. On an average of the last nine years the mean declared value of the coal exported from our shores has scarcely exceeded 9s. per ton at the port of shipment, which means that the coal-owners have had almost starvation prices, and that the great industrial army whose business it is to raise the commodity so lavishly disposed of, have also had less remuneration than could be desired. England, in short, is adding little or nothing to her accumulated wealth by this extensive and rapid process of depleting the sources of that wealth. Nor is this the worst of it. Our best customers for coal—the French — have somewhat ungraciously remarked that "there is one simple means of competing with England in her manufactures; it is to buy her coal from her, and England has lent herself to this design by developing and facilitating her exportation of coal in every possible way." The statement is true. The foreign competition of which we now hear so much would probably have been a much

less formidable affair had English coal not been available for the use and benefit of England's rivals.

From the export of coal to its consumption in the shipping trade is a natural transition. In this direction substantial economy has taken place. What the precise extent of that economy may be, we cannot calculate. The problem is complicated by such considerations as those that relate to the proportion of sailing to steam tonnage, the relative proportions of vessels laid up and in service, the proportions of old and new steamers, the descriptions of engines and boilers adopted, the rate of speed, &c. In all the newer steamships built for the merchant service, the use of compound engines is invariable, inducing, as they do, a remarkable economy of fuel in the attainment of a given result. In some cases this economy is equal to 100 per cent., when compared with vessels constructed thirty years ago; in the case of vessels of more recent construction, the economy is considerably less.[1] But whatever the average economy may be, it has certainly not kept pace with the growth of our steam tonnage, which advanced from 1,111,375 tons in 1870 to 3,331,000 tons in 1882, being an increase of 2,220,000 tons, or about 200 per cent. It will be an evil day for England when she can no longer point to a continuance of progress in this direction, but it is probably too much to expect that we shall witness any considerable increase of economy on the results now attained in our best steamships. On the contrary, it is quite on the cards that the vastly quicker voyages now demanded, may entail a permanently larger consumption of fuel for a given result. Liquid fuel is being adopted to some extent in the place of coal, but it is probably too much to hope that this innovation will become general.

[1] A very notable case in point is that of the Cunard liners. In the *Asia*, one of the first ships built for that Company, the consumption of coal was 4 lbs. per indicated horse-power per hour. In the later-built ships, it has seldom been 2, and often not more than 1.6 or 1.7 lbs., showing an economy of considerably over 100 per cent.

So far as purely industrial processes are concerned, it is scarcely probable that we shall witness any substantial diminution of the quantity of coal consumed, *unless as the direct result of a decline in our manufactures.* In the manufacture of iron, which has all along been the principal source of consumption, the economy of fuel has been brought to a degree of perfection, in respect of all the principal processes, that is not likely to be much improved upon in the future. Both in the operations of the blast furnace and in the manufacture of steel, the best methods now followed do not appear to admit of much practical improvement. If this view is correct, it must follow that any increase in our manufacture of iron, will be followed by a corresponding increase in the consumption of coal.[1] The same remark applies to most of our other industries. The economy of fuel in the ordinary steam-engine has been carried so far within late years, that very little improvement is looked for in the best results of our best engines, notwithstanding that in both engines and furnaces of all kinds the theoretical limit of efficiency is yet far from being realised.[2] It would, of course, be absurd to pretend that finality of economy has been obtained in every direction. There are many engineers who expect to see atmospheric air employed in lieu of steam; petroleum, or other liquid fuel, taking the place of solid fuel on our steamships and locomotives; and electricity universally applied both for

[1] This, of course, applies only to the production of pig-iron and steel. There is a probability that the quantity of malleable iron now made will steadily decrease, and there would be economy or reduced consumption of fuel to that extent.

[2] Babbage gives a very interesting example of the increased efficiency of the steam-engine in the mines of Cornwall in his time. In 1813, the average duty of 24 engines reported upon over a whole year was 19,456,000; in 1833, the average of 58 engines reported on had increased to 46,000,000. In the former year, the average duty of the best engines was 26,400,000; in the latter year it was 83,306,092. In the former case, therefore, there was an increase of over 140; in the latter, an increase of over 200 per cent.

lighting and motive power. Admitting, however, that every one of these anticipations is capable of being realised, it is neither expected nor pretended that for general industrial uses any effectual substitute for coal is likely to be forthcoming.[1]

Our cursory examination of the present course and tendency of events has brought us to the conclusion that *if our industrial progress is to continue, it must be accompanied, so long as it lasts, by an increased depletion of our already largely exhausted supplies of coal.* Whether that increase is likely to be at the rate of two, four, or six per cent. per annum will depend upon the rate of our progress as a manufacturing nation, and upon the extent to which we are able to introduce and practise economy in our domestic and industrial life. From the latter source there is not probably much to be hoped. It is everybody's business to economise our coal, and therefore it will be nobody's, so long, at any rate, as fuel continues to be low in price. Very large consumers of coal are, of course, excepted from this generalisation. It is their affair to practise the utmost economy as a primary essential of success in their special occupation. But the motives to economy from this cause, as we have already stated, have already gone as far in the direction of saving fuel as we are likely to see realised in practice.

It is no doubt a "far cry" to the time when our industries are likely to be seriously crippled in consequence of the dearness or scarcity of fuel. But in some directions we are already having a foretaste of what that time will bring with it when it does come. In some of our ironmaking districts, the coal best suited for the iron manufacture is being rapidly exhausted. In our principal iron-producing district, the supply of coal available

[1] It is, of course, possible that in this country, as in the United States, phenomenal resources, such as the oil and gas wells of Pennsylvania, may be discovered and utilised. In the neighbourhood of Pittsburg, coal has now been largely discarded for manufactures, in favour of natural gas.

for coke-making is reckoned to be equal to no more than 120 years of the present consumption.[1] In other districts, the development of manufactures has been hindered by the depletion of the local coal resources. It is asserted in some quarters that when our own coal begins to get really scarce we may import our fuel from America, or other countries possessed of redundant supplies. But who can tell in what relation this country is likely to stand to the United States say a hundred years hence? It is perfectly true that at the present time Brother Jonathan has enough and to spare, that the Pennsylvania coalfields are the richest in the known world, and that coal is mined there for less than the cheapest price at which it can be worked with us.[2] But even if it were possible to maintain our industries by imported supplies of fuel, the conditions of their maintenance would be so uncertain and precarious that the capital embarked in them would be gradually withdrawn, until such trades as depended largely on coal would be like "the baseless fabric of a vision." A sudden rise in prices, a new fiscal regulation, an act of war, and many other easily conceivable influences would be likely to affect English manufactures dependent on imported fuel so seriously and so often, that there would be no security for those engaged in them. Hence it is not entirely a question of whether we could command supplies of coal from other countries, nor is it even a question of whether we could depend upon supplies of relatively cheap coal. It is rather a question of whether such supplies would possess the elements of stability and permanence sufficiently to give capital that sense of security which home resources always afford.

[1] "Journal of the Iron and Steel Institute," vol. ii. 1877.

[2] The average cost of producing the coking coal of Pennsylvania is stated to be under 2s. per ton, and coke of excellent quality has been supplied to the ironmakers there at 4s. to 4s. 6d. per ton, or about one-half the average price in this country.

The considerations just stated are so important in their bearing upon England's future as a manufacturing nation, that it may not be irrelevant to examine the probable effects of dependence upon imported supplies of coal upon one or two of our greatest industries. The cotton trade of England has been brought to its present unique proportions by three special advantages—two of them acquired, the third natural. If we were asked to describe these in the order of their importance, we should say that the first was the advantage of a great start in all the principal methods and appliances whereby economy of production has been secured; the second, the efficiency and skill of our factory-workers; and the third, the command of cheap and good fuel. It is now possible for any other country to rival, or even excel, England in reference to the two conditions first stated; the third, so long as it remains to us, may be unique. The cotton trade, like all our textiles, is a large consumer of coal. The total quantity of fuel used in all our cotton-mills is probably over eight millions of tons. If it should ever become necessary to import this coal from another country, its cost would be likely to be nearly if not entirely double what it is now, which means that the trade would have to carry a permanent burden of at least three millions sterling from which it is at present exempt. Now, the total capital embarked in our cotton trade is certainly not less than eighty to ninety millions sterling, and a very simple arithmetical process will show that the burden imposed by the necessity of imported supplies of coal would be equal to paying a dividend of over 3 per cent. on that capital. The highest authorities in the cotton trade do not hesitate to say that over the last seven or eight years less than this dividend has been paid upon an average of all the factories in the kingdom.[1]

[1] This statement was made at a meeting of the Statistical Society in February 1884, by Mr. Benjamin Whitworth, M.P., a gentleman of large experience.

In order to appreciate the importance to the United Kingdom of its coal supplies, it is only necessary to consider briefly the extent to which this source of wealth differentiates our own country from France, which has much more limited coalfields, and these of a generally inferior character. The national income of France is calculated by competent statistical authorities to approximate closely to that of the United Kingdom, but it is much less than that of this country relatively to both area and population. The coal industry, however, is calculated in France to be worth only about thirteen millions sterling a year, assuming an average value of 13s. per ton of coal produced, whereas if the same average is applied to the coal industry of Great Britain, the annual value of the product would come out as about 105 millions sterling a year, or more than 800 per cent. in excess of that of France. In other words, if the national annual income of both the countries were the same — say about 1200 millions sterling—coal would represent only a ninety-second part of that of France, while it forms more than a twelfth part of that of Great Britain.[1]

Even those who are disposed to take the most pessimist view of the future, so far as our coal supplies are concerned, should not fail to take account of two important circumstances bearing thereupon—the first that England, after all, has infinitely superior coal resources to those of any other European country except Russia; the second that although the progress of our industry, *as now carried on*, would be seriously checked by an exhaustion of our supplies of mineral fuel, it may be possible largely to adapt it to such a change of circumstances as that disaster would involve.

[1] A well-known authority, M. Vacher, calculated the national income of France in 1875 at about 800 millions of pounds. Since then it has probably increased by nearly 200 millions. The national income of the United Kingdom has been variously calculated at from 1000 to 1200 millions.

The total coal-bearing area of the United Kingdom has been calculated by competent geologists at 11,900 square miles, as compared with 1770 square miles for Germany, 2086 square miles for France, 510 square miles for Belgium, 1800 square miles for Austria, and 3510 square miles for Spain; while Sweden, Norway, Denmark, Switzerland, the Danubian principalities, Turkey, and Italy, have no coal measures of any real commercial value. Great Britain, therefore, is possessed of a larger coal-bearing surface than all the other nations of Europe put together, with the exception of Russia, which is estimated to have not less than 30,000 square miles of carboniferous area. It may be possible to extract consolation from these figures, for they surely prove that so far as industrial supremacy is dependent upon coal, our own country will be the last European country, except one, to go to the wall.

With reference to the second crumb of comfort that has been suggested—the possibility of maintaining a considerable industry after our supplies of coal have become scarce and dear—it is beset by so many elements of uncertainty that it would be folly to speak of it with any degree of assurance. Sweden, we know, has built up an important iron industry without indigenous coal resources, but it must not be forgotten that the metallurgists of that country have boundless stores of charcoal at command, and therein differ from those of England. Switzerland, again, has developed both the silk and cotton industries with notable success, not to speak of her supremacy in the watch manufacture, but water power is more at command there than with us, and labour costs about one-half the English average.

# CHAPTER XXIV.

## *THE COMPARATIVE EFFICIENCY OF LABOUR.*

"The modern English character reflects the English Constitution in this, that it abounds in paradox; that it possesses every strength, but holds it tainted with every weakness; that it seems alternately both to rise above and to fall below the standard of average humanity; that there is no allegation of praise or blame which, in some one of the aspects of its many-sided formation, it does not deserve; that only in the midst of much default and much transgression the people of this United Kingdom either have heretofore established, or will establish, their title to be reckoned, among the children of men, for the eldest born of an imperial race."—W. E. GLADSTONE.

"The ambition to create value evokes every kind of ability, government becomes a manufacturing corporation, and every house a mill. The headlong bias to utility will let no talent lie in a napkin—if possible, will teach spiders to weave silk stockings. An Englishman, while he eats and drinks no more, or not much more than another man, labours three times as many hours in the course of a year as another European; or, his life as a workman is three lives. He works fast. Everything in England is at a quick pace. They have reinforced their own productivity by the creation of that marvellous machinery which differences this age from any other age."—R. W. EMERSON.

THERE is no consideration that can be named, next after that of the possession of natural resources of the highest order, that has a more potent influence in determining the industrial status of a nation than that of the comparative efficiency of its labour. *Efficient labour* implies and involves many qualities besides those of mere dexterity of manipulation or capacity for drudgery. It is associated and largely identical with high intelligence, technical skill, physical strength and endurance, sobriety of conduct, and desire and ability to excel, all of which

virtues must be allied to a capable administration, minute and methodical subdivision of labour, the most improved and perfect mechanical aids to labour, capital sufficient to secure production on a large scale, and many minor requisites to the maintenance of economical production.

This perfunctory enumeration of the essential elements of efficiency in manufacturing operations is sufficient to show that it is far from the simple matter it might appear on the first blush to compare one country with another in reference to their industrial efficiency. Such a problem is, indeed, so complicated by indeterminate and undeterminable tests that it has seldom, if ever, been satisfactorily solved. Nor could any attempted solution reach the core of the subject that failed to take account of economic differences that always more or less distinguish one country from another, such as the rate of wages paid to labour, and the command over the necessaries of life which these wages afford. Next to a bracing and fairly equable climate, there is no circumstance that more favourably affects the comparative economy of labour than that of a good and nourishing diet. This desideratum is much more readily obtainable in the north and west of Europe than in the east and south, and is of itself sufficient to explain the differences of physical capacity hence observed. Climate, again, has perhaps more to do with causing inefficient labour than even poverty of diet; the one indeed being often the necessary corollary of the other. Hence it happens, again, that the inhabitants of the northern climates have an immense superiority over those of the south. "In passing through the southern nations of Europe," says Gilbart,[1] "we find lands ill-cultivated, marshes extending themselves in places formerly covered with corn; we find natural advantages neglected; we meet with rivers without bridges, sea-coasts without any ships, provinces without roads, cities without wealth. Man lies there in

[1] "Lectures and Essays," vol. ii. p. 357.

a state of inactivity, reposing beneath a sultry sun. Too lazy to work at any kind of labour, beyond what is necessary to mere existence, he thinks that the enjoyments of life are not worth the exertion necessary for their attainment." Seaman calls attention to the same phenomena when he says,[1] "The want of an industrial education, and habits of indolence and unprovidence, have ever been insuperable obstacles to progress of any kind among nearly all the Indian tribes and nations of America; and the same causes have been one of the principal obstacles to progress among every people living in the torrid zone." It is unnecessary to further multiply authorities on this point.

The leading nations of the world are generally situated in the temperate zone, and no one country in particular can claim any remarkable superiority in the matter of climate. There are, indeed, very considerable differences in the absolute amounts of wages paid to labour, as between such countries, say, as the United Kingdom and the United States; but these differences are not by any means coincident with the differences in the absolute amount of comfort enjoyed in the countries to which they apply. Selecting a group of four or five great industrial nations, with the United States at one end of the scale, and Belgium at the other, it will probably be found that, for purposes of labour efficiency, the sustentation procurable as the reward of labour is not sufficiently variable in character and amount to adequately explain the differences that undoubtedly exist in the efficiency of the work produced. An English artizan has probably on the whole a third or a fourth more beef and mutton in the course of a year than the average inhabitant of any of the other countries under consideration; but it may fairly be questioned if this is an adequate set-off to the greater industry of many, and the greater efficiency of most.

[1] "Progress of Nations," second series, p. 19.

Having carried the subject thus far, we are now called upon to endeavour to find an answer to a twofold problem, viz.:—

1. What are the characteristic differences in the comparative efficiency of the labour of different industrial nations? and

2. To what special causes are these characteristic differences attributable?

It is manifest that the first of these two questions can only be answered by a full and candid examination of all the facts required to elucidate the second. These facts are not to be found lying on the surface. They are, for the most part, recondite and esoteric, buried away in the cost-books of large manufacturing concerns, or entombed in the recesses of Consular Reports; and are only capable, when discovered, of being dealt with by special experts, who require, in order that any value may be conferred upon their work, to be more or less completely familiar with the conditions of work and wages in different countries. Fully sensible of the delicate character of this investigation, and the peculiar qualifications necessary to its being made of any value, we would desire to speak with the utmost diffidence, notwithstanding that the matter has for many years occupied a great deal of our attention.

By what measure shall we try, and to what standard shall we bring, the comparative value of labour? Scarcely any two descriptions of labour can be tested by exactly the same criteria. Agricultural labour is obviously compounded of physical strength, special knowledge of agricultural processes, and steady application. Factory labour, as typified by the cotton industry, is more a matter of manual dexterity and incessant practice. Mining is mainly a matter of physical endurance, coupled with a certain, and often considerable, degree of adaptability of posture, to meet required conditions. The work of the engineer is partly the product of technical skill, partly that of long training

in the art of adapting means to ends. The watchmaker's, optician's, and other handicrafts that may be numbered by hundreds, are dependent for their efficiency mainly on technical skill and dexterity of manipulation. And so with others. Of the very many qualifications that go to make up the sum of efficient labour, each is applied in a different degree, according to the character of the work. The comparative aggregate efficiency of labour could only, therefore, be determined in the event of precisely the same occupations being followed to precisely the same extent under exactly similar external conditions in different countries; and as no such uniformity is existent or possible, it results that, at the very threshold of the inquiry, we are met with obstacles that are almost, if not entirely, insuperable.

The considerations just enunciated are a proper, though, perhaps, not sufficient reply to those who are accustomed to generalise in the broadest possible way as to the comparative worth of a given amount of work in different countries. Such generalisations are obviously, in almost all cases, worthless. As no one man can possibly master all the varying conditions of labour in every one of the myriad industries now followed in all civilised countries, so no one is capable of speaking with authority, except in a very limited degree, upon the comparative value of that labour. When Socrates was asked what he thought of the works of Heraclitus, he replied, "That part of them which I do understand I find to be excellent; therefore, I conclude that part of them which I do not understand to be excellent also." The principle that guided the Grecian philosopher is the only one that can be safely applied to the subject in hand, but its application must not be invariable, and it has many obvious limitations. Great injustice has been done to British labour in consequence of forgetting this rule—injustice both in extolling its merits and in condemning its defects. The English artisan is neither the prodigy of virtue which some, nor the master

of incapacity and vice which others, have represented him to be.

Environed with difficulties and qualifying circumstances though this investigation necessarily is, there are yet some criteria whereby the comparative efficiency of the labour of certain countries may be approximately arrived at over a limited area of industrial pursuits. Agriculture, which affords employment to by far the largest proportion of the population of every modern country, is not found in this category. It is the commonest of cries that the agricultural labourer is becoming less and less efficient, and to his dire shortcomings much of our agricultural depression has been attributed. But there is so great a change in the conditions of husbandry as between, say, fifty years ago and the present day, that any comparison of the work performed at the two periods by an average agricultural labourer, could not fail to mislead, if not to misrepresent. It would be a comparison, not of spade and spade, of flail and flail, of sickle and sickle, but of the hand and the steam-plough, of the flail and the highly elaborate and efficient threshing-machine, of the scythe and the mowing-machine —in short, of instruments that perform their work under totally different conditions, both as to methods and results. Nor would it bring us any nearer the end aimed at if we divided the population actually engaged in agriculture, as ascertained from the census reports, into the cultivable area of each country, or the quantity and value of the products obtained. In some countries, as in our own, the crops are raised with a great expenditure of manual labour—in draining, fencing, manuring, weeding, and so forth—apart from the mere work of sowing the seed, and reaping the harvest, which in some countries is almost the sum total of the labour put forth. When we state, therefore, as an ascertained fact, that the number of inhabitants of this country engaged in agricultural labour is nearly double that so employed in the United States

*relatively to the area cultivated,* it is not to be rashly assumed that the efficiency of the American agriculturist is twice that of his English congener. The high cost of labour, to begin with, compels the American farmer to utilise labour-saving machinery to the utmost possible extent, so that the apparent difference of efficiency may be, and probably is, due entirely to this fact. If we could have a comparison of the work done with the same machinery, on soil of the same character, under uniform climatic and cropping conditions, and over a considerable period of time, the elements necessary to a sound judgment might be available, but not otherwise.

There are some leading industries, common alike to all civilised countries, to which the special difficulties just pointed out as affecting agriculture do not equally or similarly apply. Such are factory-labour, coal-mining, iron-working, steel-manufacturing, and one or two others. But in every one of these cases, as the author was careful to point out in a paper read before the Statistical Society in 1884,[1] there are some characteristic phenomena which differentiate each country from every other, and therefore compel us to receive general conclusions with the caution already prescribed. Thus, in the production of coal, America is ahead of England as measured by the average daily or yearly quantity raised per man employed, while both Germany and France are far behind us. This conclusion is based upon a division of the number of hands employed into the total quantity of minerals raised, and, so far as it goes, nothing probably could be fairer. But then if we omitted to take cognizance of the facts that the American coal is more easily worked, and that the miners of Philadelphia work considerably longer hours than those of England, we should fail to understand in what the supposed greater efficiency of the former consists, and how far it is dependent, if at all,

[1] "On the Comparative Efficiency and Earnings of Labour at Home and Abroad."

upon their superior skill and endurance. Again, the apparent inferiority of German and French miners is probably less due to inferior capacity as workers than to the inferior thickness and "workability" of their minerals. While it is necessary to give due weight to these and other qualifying circumstances, it is not without importance to know that, whether it is because of the superior efficiency of our miners, or the better "lie" and thickness of the coal, or other less obvious reasons, the average productiveness of the English coal-miner *is above that of any others in the world*, excepting only those of America. The same superiority of results appears in the working of ironstone, the average productiveness of English miners, over a given period, being superior to that of all others, except the comparatively small number engaged in the mines of Luxembourg, where the superior yield of the iron mines is due to their being so easily worked. In factory operations, moreover, English operatives turn out considerably more work per *employé* than those of any other country, whether measured by the number of spindles which they tend, or by the quantity of yarn they spin. But this fact must not be made too much of, because, although there are good grounds for believing that, in point of mere mechanical efficiency, the English operative is superior to every other, the extent of his superiority is to be measured by considerations that are less easily determined than that of the average number of spindles, or the average quantity of material he can produce—such, for example, as the quality or comparative fineness of the product.[1]

Whatever may have been the precise amount and value of the superior efficiency of English labour in the past, there is no doubt that it has been largely due (1) to the superior character and variety of our mechanical appliances, and (2) to the superior training, or knowledge

[1] The statistics of this subject will be found in a paper which the author read before the Statistical Society in December 1884.

of mechanical processes, which our artizans were thereby enabled to acquire. These, however, are advantages that may not remain with us. On the contrary, there are continually recurring evidences that our supremacy in this respect is being closely studied and emulated by our rivals abroad.

In Germany we shall find sufficient proof of the fact just stated. "Germany thirty years ago, as compared with England, was simply 'nowhere,' but placing English and German workshops side by side now, we should find that the progress in the latter had been positively marvellous. During all these years, the Germans had been following the English, step by step, importing their machinery and tools, engaging when they could the best men from the best shops, copying their methods of work, and the organisation of their industries; but, besides this, they had devoted special attention to a matter which England had almost ignored—the technical or scientific instruction of their own people." There is a common impression that the compulsory military service of Germany places her industries at a permanent disadvantage, but "the young man coming back to his work at twenty-three, is able, very rapidly, to pick up what he has lost, and from that time is a better man all round than a man of the same age who has not gone through the service. The military service teaches order, regularity, obedience, and the power of working effectively with others."[1]

As to capacity for work, it is stated that "the Germans do not get through so much work as Englishmen;" but they are "generally more docile, intelligent, and trustworthy than the English. They are temperate. Time-breaking through drink is almost unknown."[2] There is said to be nothing of the irregularity to be observed even among really good men in England. Berlin was once a

[1] Report of Royal Commission on Technical Instruction.
[2] Ibid.

drunken city, but the men are stated to have abandoned this vice, and the improvement is attributed to education. As with Germany, so with Belgium, France, and Switzerland, in varying degrees.

Nor have our foreign competitors sought to rival us only in the command of the most economical processes and appliances available for manufacturing. They have gone much further, and, as just indicated, excelled us in their technical acquaintance with the arts and principles which underlie, and are essential to, industrial operations generally. That the technical education of foreign artisans is generally superior to that of our own is now undeniable. The fact is insisted upon with discouraging iteration in almost every page of the Report of the Royal Commissioners on Technical Instruction, who state that, "although the display of Continental manufactures at the Paris International Exhibition in 1878 had led us to expect great progress, we were not prepared for so remarkable a development of their natural resources, nor for such perfection in their industrial establishments, as we actually found in France, in Germany, in Belgium, and in Switzerland. Much machinery of all kinds is now produced abroad equal in finish and in efficiency to that of this country, and we found it in numerous instances applied to manufactures with as great skill and intelligence as with us."

The Royal Commissioners do not, however, stop here. They add that "in some branches of industry, more especially in those requiring an intimate acquaintance with organic chemistry—as, for instance, in the preparation of artificial colours from coal-tar—Germany has unquestionably taken the lead.

"The introduction by Solvay, of Brussels, of the ammonia process for the manufacture of soda, and the German application of strontia in sugar-refining, constitute new departures in those arts. In the economical production of coke we are now only slowly following in

the footsteps of our Continental neighbours, whilst the experiments which have been carried on for nearly a quarter of a century in France for recovering the tar and ammonia in this process have only quite recently engaged our attention.

"The ventilation of deep mines by means of exhausting-fans was brought to perfection in Belgium earlier than with us, and although our methods of sinking shafts served for many years as models for other countries, improvements thereon were made abroad which we are now adopting with advantage.

"The abundant water-power in Switzerland and in other mountainous districts is utilised for motive purposes by means of turbines, perfect in design and execution. The export from Verviers to Scotland of woollen yarns, carded and spun by machinery made in England from South American wool formerly purchased in Liverpool and London, but for which Antwerp is now becoming the chief market, is an instance of an intelligent, careful, and persevering attention to details having established a special trade, which the cheaper labour of the Belgian factories now assists in preserving.

"The ribbon trade of Basle, that in velvets and silks of every kind at Crefeld, and in mixed fabrics at Chemnitz, are examples of recently established or transformed industries which have rarely been excelled in boldness of enterprise and in success by anything of the same kind accomplished in our own country. And it may not be improper to mention here that, in whatever degree the technical instruction of our Continental rivals may have trained them for competition with ourselves, in their own, in neutral, and to some extent in our home markets, much of their success is due to more painstaking, more pliancy, and greater thrift; and also to the general cultivation, the knowledge of modern languages, and of economic geography usually possessed by Continental manufacturers.

"But, great as has been the progress of foreign countries, and keen as is their rivalry with us in many important branches, we have no hesitation in stating our conviction, which we believe to be shared by Continental manufacturers themselves, that, taking the state of the arts of construction and the staple manufactures as a whole, our people still maintain their position at the head of the industrial world."

It is true that the evidence just quoted bears rather upon other aids to economical and efficient production than that supplied by the individual workman; but the absolute efficiency of labour is far from being merely a matter of physical capacity to turn out a specified amount of task-work in a given space of time. Under the modern economy of manufactures, this is not even the most important requisite.

While, however, it is shown that foreign nations are making progress, the Report of the Royal Commission on Technical Instruction quotes several striking examples of the superiority still enjoyed by England in industrial occupations. They found at some Continental factories that the machinery was all imported from England, and, with duty, transport, and extra cost of "setting up" added to the English price, cost about 25 per cent. more than it would have cost in Lancashire. Numerous cases are quoted in which large Continental employers bore testimony to the superiority of English labour. One large employer in Ghent thought that "good English workmen could do 20 per cent. more work in the same time than either Frenchmen or Germans. The English are more energetic and keep up the pace better. They have greater strength than their Continental rivals." Besides this, "mechanical industries in England are usually more concentrated, and English workmen have been brought up on a more liberal allowance of animal food than any on the Continent."

Nearly all countries whose natural resources or whose

manufactures are but imperfectly developed, furnish evidence of the higher value attached to English labour, which is often imported mainly for the purpose of educating the native population in English methods and processes, but is retained after that education has been made as complete as it can be, because of its unquestionable superiority. At the Fodos os Santos, Valença, Brazil, a number of English girls work side by side with the natives; but it is found that while the native girls, tending two looms, earn only 4s. to 18s. per week, the English girls, tending three looms, command from 17s. to 30s. per week, besides board and lodging.[1] Similar evidence is borne by Gallenga, as to the higher wages paid to English artizans and factory operatives in Russia.[2] It is quite intelligible that English labour should be more highly paid while English processes are being taught. But English labour would not be retained after such teaching was complete, unless it was deemed to be worth the higher payment invariably accorded to its greater efficiency.

Although the differences in the comparative efficiency of labour as between one country and another are mainly to be sought for in occupations involving more or less technical skill, as in manufacturing industries, they are not exclusively limited to such labour. On the contrary, they are to be found in a very high degree in the most ordinary field-labour, quite apart from the comparative gain due to the more or less extensive employment of machinery. This fact has been expressed very clearly by Mr. Porter, who calculated that in Great Britain, in 1831, 1000 persons engaged in agriculture provided food for 3174 persons, including themselves, whereas in Ireland every 1000 persons so engaged supplied food for only 1522 persons, including themselves. Mr. Porter is careful to qualify his figures by pointing out the allowances

[1] Commercial Reports from H.M.'s Consuls, No. 37, 1884.
[2] "A Summer Tour in Russia."

to be made for the agricultural produce exported from Ireland and imported into Great Britain, without considering which it would appear that the labour of 1000 persons in Great Britain is equal to that of 2636 persons engaged in farming operations in Ireland; but even when these allowances are duly made, the difference of efficiency is very considerable, and that, too, apart from the effect of differences in soil or mechanical aids to husbandry.[1]

To a large extent, efficiency of work and regularity of employment are convertible terms. The regularity of employment is a factor that has assuredly very much to do with the aggregate efficiency of labour. Sometimes broken time is caused by the inequalities of supply and demand, or by other events over which the worker has no kind of control. Sometimes it is the workers themselves who are responsible for such want of continuity of employment.[2] At other times, again, both causes operate in a more or less aggravated degree to reduce the number of working days in a year. In this respect, workmen do not always sin alike. In Catholic countries, especially in the east of Europe, religious festivals and *fête* days are a prolific source of broken time. In the United Kingdom, Saint Monday has much to answer for. But in all countries there is a large percentage of working time during which no work is done. Perhaps the United States supply as good an example of regular industry as could be found. The regular holidays there are few and far between, and the character of the working population is generally distinguished by industry and sobriety. But even in the United States, we find that in an occupation that offers such obvious facilities for regular work as that

[1] "Progress of the Nation."

[2] The coal famine of 1873 in our own country was undoubtedly due to the deliberate restriction of labour by the coalminers. The official returns of the Mine Inspectors show that if each miner employed in that year had produced on an average as much as in 1883, the quantity of coal raised would have been fully 35 million tons more, which would have rendered a coal famine impossible.

of coal-mining, the average number of days worked by the miners employed in one of the leading districts—that of Wilkes-Barre—in 1883, was only 228, or 26 per cent. less than the full number of working days.[1]

The facts just stated induce the consideration that so far as the actual amount of time worked over a given period is concerned, there is not so much difference between one country and another as is commonly supposed. In England the hours of labour are shorter than in any other European country, but as in nearly every other European country the number of holidays is much greater than in England, the circumstances of both tend towards an equality. Even apart from this, however, it is not necessary to say that efficiency of labour is not to be measured solely, or even mainly, by the number of hours worked. Tested by this standard, England would most probably kick the beam. But so long as it lasts, English labour is more steady, continuous, and productive.

It is further to be remembered that there is no such thing as *uniformity of superiority*, or *average difference of efficiency*, in any single industry, much less in our industrial circumstances as a whole. Probably no factory in the world ever turned out the same average product per hand employed, for any two years. As between one year and another, the product generally varies considerably, quite irrespective of any such special causes as a strike, a lock-out, or slackness of work. If the production of coal, for example, is divided by the number of hands ascertained to have been employed in any particular district or country over a considerable series of years, it will be found that the average productiveness per worker varies greatly from year to year. A better test still is that of an individual colliery, where the seams worked and the conditions of working are the same as between one year and another. Sir Isaac Bell cites the case of a

[1] Consul Clipperton's Report on the Trade, &c., of Philadelphia for the year 1883, p. 1977.

South Durham colliery where the weight of coal raised per man per day varied from an average of 70.14 cwts. in 1875 to one of 91.96 in 1880, being a difference of about 17 per cent. in favour of the later year, and that, too, without any specially disturbing cause affecting the result as between one period and another.[1]

A striking example of the fact that race, energy, and acquired skill go for more than so-called natural advantages is afforded by the state of both agriculture and manufactures in the Empire of Brazil. There is probably no country in the world possessed of resources superior to this. All kinds of agricultural produce grow most luxuriously, and of tropical produce there is such a wealth that the rarest fruits are in many cases the staple food of the people. And yet labour is in the lowest and most degraded condition. Free labourers, as distinguished from slaves, can be found in abundance at the daily wage of 1s. 9d. Of the mode of life of these labourers, our consul at Bahia says:[2]—"Always leading a nomadic life when so hired, they find no difficulty in squatting near the site of their work, and are satisfied with no better shelter than a few stakes stuck in the ground and roughly covered with palm-leaves. Their food is of the most indifferent kind, chiefly consisting of the mandioca flour, palm oil, bananas, plantains, and jaca (jack-fruit). An agouti, an iguana, a double-tailed lizard, a monkey, a parrot, land-crabs, and such food, are Sunday luxuries and holiday delicacies, when they can find time to hunt them."

It results from all that we have already stated, that the efficiency of labour is dependent upon many different circumstances, many of them not inherent in the character or competency of the labourers themselves. It is liable to be influenced by considerations of soil and climate, by the degree of acquired skill, by regularity of employment,

[1] "Principles of the Manufacture of Iron and Steel," p. 507.

[2] "Commercial Reports," No. 37, 1884.

by the character of the work performed, by the means of purchasing good and wholesome food, and thereby maintaining a fund of strength and energy, by inducements to improve the economic position of the labourers, by the facility with which mechanical aids can be purchased and applied, and by the readiness with which a technical knowledge of the arts may be attained. Indian agriculture is very much behind that of England, not necessarily because Indian labour is so much inferior—though that is no doubt a consideration of the utmost importance, and one that is attributable largely to climatic influence—but also because the Indian zemindar and ryot cannot afford to purchase the implements that are absolutely indispensable adjuncts to efficient and economical husbandry. American agriculture is less costly than English, because American farmers have usually implements to do a great deal that in this country contiues to be performed by hand. It does not follow, as a matter of course, that dear labour is always the most efficient. No law of this kind can be founded upon mere nominal differences of cost. But the most highly-paid labour is generally the most efficient for two reasons—first, because its greater efficiency has enabled it to command a higher rate of remuneration; and, in the next place, because the very fact of that higher payment being made, causes, and even compels, both employer and employed to maintain such efficiency by every mechanical resource at command.

It is now time that we should draw together into one focus the scattered rays of light that we have endeavoured to throw upon this vexed question. Tested by any one of the many considerations put forward, it appears that English labour will be found to hold its own up to the present time, but that the superiority which has hitherto differentiated English from foreign labour is every day being diminished. Such part of our pre-eminence as has been due to the better command of labour-saving methods and appliances, to a long course of industrial training,

and to a special knowledge of manufacturing processes, is slowly but surely being shared by rival nations, and must ultimately be lost to us. There is probably no important process or device for economising production that is not already known to all the chief manufacturing nations of the world. In the future, as capital accumulates in foreign countries, they will make haste to avail themselves of the means of repairing industrial deficiencies still existing, and of thereby raising themselves to the English standard of efficiency. How, then, will the race be to the swift and the battle to the strong? Mainly, we believe, by the maintenance of a high standard of efficiency and conscientiousness in the character of labour. Some writers appear to think that these necessary qualities have, in the case of English labour, become distinctly impaired by operations the influence of which is notorious, and the cure or counteraction of which is not yet visible. Mr. W. R. Greg has remarked that—

"The power and the organisation of our working-classes are growing year by year; and that power and organisation are being persistently applied to obtain higher rates of wages and to enforce shorter hours of labour; while that labour is, from the same causes, becoming less conscientious and less disciplined. The inevitable result of these combined agencies is that the cost of production of commodities for which Great Britain has always been most famous is greatly enhanced both positively and relatively; while the boundless concentration and command of capital which hitherto have so enormously reduced that relative cost are no longer exclusively her own."[1]

Mr. Greg's highly pessimist views probably exaggerate the mischief, but they nevertheless convey a note of warning to which our industrials, and the working-classes in particular, would do well to take heed.

The natural advantages and opportunities of England are

[1] *Contemporary Review*, June 1874.

greater perhaps than have ever before been enjoyed by any one nation, but they are not necessarily unattainable by others. Nor are the mechanical skill, physical endurance, and resistless energy of the Anglo-Saxon race the exclusive possessions of England, as they once were. On the contrary, England now shares these valuable *desiderata* with other countries, whose united population is more than thrice that of her own, and each of whom have apparently determined to accomplish for themselves—and necessarily more or less as against England—that which has won for the mother country such wealth and renown.

## CHAPTER XXV.

### *PRODUCTION ON A LARGE AND PRODUCTION ON A SMALL SCALE.*

In his "Elements of Political Economy," Mill devotes the ninth chapter of book i. to considering the effects of the dimensions or scale on which production is conducted. Babbage, again, in his "Economy of Machinery and Manufactures," devotes his twenty-second chapter to the consideration of the "causes and consequences of large factories," and his twenty-third chapter to "the position of large factories." There are, indeed, very few political economists who have not bestowed more or less attention upon this, as being an element of the first importance in determining the cost at which manufactures of any kind can be produced.

The advantages of production on a large scale—or, in other words, of carrying on very large, as distinguished from small factories—are sufficiently obvious. Mill has very properly remarked that, "as a general rule, the expenses of a business do not increase by any means proportionally to the quantity of business;" and he has pointed out some of the more material items of economy attributable to manufacturing on a large scale, such as the reduction of standing charges, the advantage of having as many machines—like cotton-spindles or looms—as can be attended to by a single worker at one time, the economy of engine, as well as manual, power thereby induced, and the saving in the labour of the capitalists themselves.

It is important to consider how far the superior position occupied by England in manufacturing industry is due to the greater scale of her works and factories as compared with those of rival nations, and how far rival nations are approaching us in this regard.

The materials for such a comparison are not to be found so readily as could be desired. There is no lack of statistical information as to the number of factories engaged in the textile industries, of mines furnishing supplies of iron ore and coal, of furnaces producing iron, and of shipbuilding, chemical, engineering, and other works, relatively to the aggregate production of each variety of manufacture. But this is not all that is required for the purpose of making a fair comparison, since but few data are afforded, in a general way, of the proportion of large to small factories, mines, &c.

The general principles that apply to manufacturing operations on a large scale, apply also, though perhaps in a modified degree, to agriculture; and as the earth, to quote Quesnay's graphic definition, "is the mother of wealth and the unique source of riches," we shall first of all consider how far different nations compare in the matter of agricultural establishments on a large scale.

In England, the tendency of recent years has been rather towards an increase of both the very small and the very large holdings, and a reduction in the number of holdings of medium size. In 1880, the total number of holdings of all sizes was 414,804, as compared with 412,340 in 1875. Taking the country as a whole, the average size of the holdings had slightly increased, the mean average of each in 1875 having been 58 acres, as against 59 acres in 1880. If we go still further back we find that the holdings averaged a less area than that of 1875. Of the total holdings in 1880, 295,313, or over 70 per cent. were of 50 acres and under.

In Scotland, both the largest and the smallest size of holdings have decreased, the number of farms under 50

acres having been 55,280 in 1880, against only 56,311 in 1875, while the number of holdings of over 1000 acres has fallen within the same interval from 126 to 79. The average size of the holdings of Scotland was 57 acres in 1880, and rather under that figure in 1875. It does not therefore seem that any material change in the direction of extending the size of agricultural holdings is in progress in this country. In 1880, fully 83 per cent. of all the farms in Great Britain were under 100 acres, which is too limited a size to permit of the application of the utmost possible economy of labour to the art of husbandry.

But while the average size of the agricultural holdings of this country has apparently reached a minimum, and shows little sign of further decrease, that of the United States, on the contrary, is continually tending in a downward direction. The ascertained average size of the farms in 1850 was 203 acres, that of 1860, 199 acres, that of 1870, 153 acres, and that of 1880, 132 acres, including both improved and unimproved land. It appears from these figures that the average size of the farms of the United States is still nearly three times as high as that of Great Britain; but, as in seventeen representative counties of England, according to figures quoted by Sir Thomas Brassey,[1] the average size of the farms is 152 acres, the mean dimensions over a very wide area are nearly the same in both countries.

In Continental countries, almost without exception, the minute subdivision of the land, and the general prevalence of the system of peasant proprietors and metayers, result in a lower average size of holding than in either England or the United States. It is evident, therefore, that so far as any advantage may be conferred by farming on a large scale, England, if behind the United States, is before Continental countries.

A strong argument in favour of the turning out of

[1] Presidental address to Statistical Society, 1879.

agricultural products on a large scale is supplied by the experience of the Aston-by-Budworth cheese factory in Cheshire. This large establishment, which is conducted on co-operative principles, converts into cheese the milk of from 500 to 550 cows, and the dairy is worked by only two men and two women, with an extra man to look after the pigs, of which 150 to 160 are kept during the height of the season to consume the whey. Besides the saving of home labour secured by the extent of this factory, it is urged in its favour that it avoids "anxiety as to the quality of the make, as well as risk of failure;" while it further provides for "the more uniform quality of cheese," which results from the plan of working adopted.[1] Other examples might be quoted, all pointing to the same conclusion; but, indeed, the economy of tillage on a large scale so obviously provides for reduction of cost over a given product, that it is not needful to multiply proofs of the fact.

The large scale on which many of the farms in the United States are operated, coupled with the introduction of labour-saving appliances, enables some remarkable results to be attained. Formerly an average of 8 or 9 bushels per man per day was considered good work. Now, 50 bushels per day per man is not uncommon. This average is mentioned as having been got on Governor Bidwell's farm in California. On another farm in the same State a crew of 67 men, with animal and steam power, turned out during the harvest of 1879 an average of 57 bushels per man per day; and on a third farm, where a new combined harvester and thrasher was employed, 5 men produced 144 bushels per man per day.

From the products of the surface to the products of the bowels of the earth is an easy transition. In this respect, again, England does not come out quite so well as one or two other countries. Some of the largest mines and

[1] Mr. Coleman's Reports to the Royal Commission on Agriculture, p. 54.

collieries in the world are, without doubt, to be found in this country; but we are now speaking, not of exceptional but of general characteristics, and so far as these can be ascertained from official returns, they show that the average output of coal per colliery is considerably smaller in Great Britain than in either the United States, Germany, France, or Belgium; it is, indeed, less than one-half that of either of the two first-named countries.[1] Between 1873 and 1878 the average productiveness of English collieries was a good deal reduced by the opening out of many small pits that were scarcely worthy to be ranked in that category; but of late years this tendency has diminished, by the operation of the natural law which establishes the survival of the fittest, so that the collieries left at work have attained to a higher average productiveness. There is, besides, a great deal of difference as between one district and another. In North Durham, for example, the collieries at work yield an average of over 65,000 tons per annum, while in North and East Lancashire the average is under 30,000 tons, and in some other districts it is less even than that. In the anthracite collieries of Philadelphia the average annual output per colliery is over 100,000 tons.

With regard to factory operations, it will be found, speaking generally, that the factories of the United Kingdom are certainly as large as, if not larger than, those of foreign countries. In respect to cotton factories, the average number of spindles to each establishment increased from 12,174 in 1856 to 16,300 in 1878, while the average number of power-looms increased within the same period from 130 to 192, being an increase of 34 per cent. in the number of spindles, and of 47 per cent. in the number of looms.

[1] A good deal of the value of this statement must depend upon whether the term "colliery" or "mine" is used in all countries alike to express exactly the same thing. Unless this is so, it is obvious that no just comparison can be established.

Satisfactory as this increase is, it is nothing to that which has taken place in the United States, where between 1860 and 1880, the average number of spindles per factory at work rose from 4800 to 14,090, while the average number of looms increased from 115 to 295. The United States' factories have now, therefore, within 14 per cent. of the number of spindles per factory required to make them equal with our own country, while they had, in 1880, 54 per cent. more looms. This may be regarded as pretty strong evidence of the value attached by Americans to production on a large scale. Already, indeed, the New England States, which contain three-fourths of the cotton factories and cotton-producing power of America, have gone beyond the old country in the dimensions of their works, for if we consider these states by themselves we find that the average size of their cotton factories, as measured by the number of their spindles—19,663 per factory—is 20 per cent. greater than that of the factories of Great Britain.

It is not by any means so easy a matter to make a comparison of the woollen as of the cotton trade in different countries. There is such a variety of woollen productions that a great many different descriptions of machines are necessarily employed in their manufacture; and of these, as distinguished from spinning-spindles, there are not sufficiently reliable data at hand to enable a true estimate of progress to be arrived at. So far as the number of spindles may be accepted as a measure of results, there has been a substantial increase in the average size of the factories at work in all European countries and in the United States as well. In Great Britain that advance has been from an average of 1533 spindles per factory in 1856 to one of 2115 in 1878.

So far as we have gone, it must be evident that England has not within recent years excelled, if she has fully kept progress with, the other industrial nations of the world in reference to such elements of advantage as

accrue from production on a large scale. But in some other matters, that are scarcely of subordinate importance, her position is *sui generis*. In regard to her shipbuilding, chemical, metallurgical, and several other industries, English factories are ahead of all rival establishments the wide world over, and the economy of production resulting therefrom has enabled England to maintain the high position that she has thus won. The data at command do not allow of a minute comparison being made in these industries. But the fact is, indeed, too obvious to require proof; it is reflected in the every-day annals of English commerce with the rest of mankind.

It has now been shown that in countries which have acquired any great amount of pre-eminence in the economy of manufactures, there is an increasing tendency to substitute for small establishments factories of colossal dimensions. It is acknowledged on all hands that the difference between a great and a small production of any commodity, whether it be raw or manufactured, may, and probably will, represent the difference between profit and loss in working. The working of a colliery may be cited as an example. It may, and often will, cost no more to establish a mine capable of turning out 100,000 tons of coal a year than one to turn out only 50,000 tons. In the one case, as in the other, engines and other surface machinery must be installed, shafts must be sunk, ventilation provided, pumping machinery erected, &c.; and the difference between the smaller and the larger output is mainly one of more powerful drawing machinery. It is obvious that in this case the standing charges per ton, the costs of administration, of pumping and engine power, of haulage, of rent, of clerical work, and so on, must come very much lighter on the pits producing double the quantity; and if those burdens are lightened to the extent of only 3d. per ton in these days of keen competition, it may, and probably will, mean that the one is doing a good

business while the other is hastening towards bankruptcy. As with coal-mines so with factories of all kinds. *Ex uno disce omnes.*

One important lesson to be learned from an examination of the statistics of the production of commodities, whether raw or manufactured, is that the larger the scale of operations, the smaller the number of hands required to obtain a given output, and the higher the average productiveness all round. This conclusion is brought out in the clearest manner by the returns of the production of cotton in America. Mr. Atkinson shows[1] that in North Carolina, where the factories are generally of small size, the product of five persons over a twelvemonth only amounts to 2400 yards, whereas in New England, where the factories are generally larger, and better equipped, the same number of operatives, working for the same period, will produce 140,000 yards, or about 60 times as much. Hence the cost of producing cotton in New England, allowing an average remuneration of 287 dollars per operative per annum, would be 1.08 cent, while in North Carolina the cost of attaining the same result, after paying the same rate of wages, would be 58.49 cents per yard.

While it is universally admitted that one great secret of successful competition and economical production is the capability of farms, factories, or mines to produce on a large scale, there is not quite so unanimous a verdict pronounced on the beneficial results of night work, or the two-shift system. The Royal Commissioners on Technical Instruction found, in the course of their inquiries on the Continent, that there was a preponderance of opinion in favour of working factories 22 hours in the 24, instead of only 11, it being contended that the fixed expenses—rent, rates, taxes, interest, &c.—are the same in either case. On the other hand, there is, of course, extra depreciation; but this is held to be a gain rather than a

[1] "Metaphysics and Mechanism of Exchange."

loss, inasmuch as it enables the employer to improve his machinery by frequent renewals. Some employers held that to close their works for twelve hours out of the twenty-four would be tantamount to closing them entirely. Others held that the two-shift system told unfavourably upon the workers, and depreciated the value of their work. Less work is done, and the breakages, &c., mostly occur at night, while the cost of gas is a serious item.

In some Continental countries, as in the woollen spinning and weaving factories of Verviers (Belgium), most of the factories work 22 hours per day, in two shifts of $11\frac{1}{4}$ hours for the day, and $10\frac{3}{4}$ for the night. The workers begin at 6 A.M. and continue till 7 P.M., when the second shift begins, and continues until 6 A.M., with an interval of only a quarter of an hour for food. On Saturday night there is a short shift of 9 hours, the machinery stopping at 4 A.M. on Sunday, to allow time for the work-people to rest, and the engines to cool by Monday. The factories thus work 130 hours per week. The hands change fortnightly from the day to the night-shift. In England night-work is not very general unless when business is exceptionally brisk.

Much more might be written on the subject of this chapter. But enough has been said to show that England has not, as yet, forfeited the advantage which production on a large scale is calculated to afford. Her command of mechanical resources remains unique. If she is not so far ahead of other nations as formerly, that is no more than we had a right to expect.

## CHAPTER XXVI.

### *ENGLAND'S FUTURE IN RELATION TO THE UNITED STATES.*

"The students of the future, in the department of political philosophy, will have much to say in the way of comparison between American and British institutions. The relationship between these two is unique in history. . . . The American Republic has, taking the capacity of her land into view, as well as its mere measurement, a natural base for the greatest continuous empire ever established by man. . . . The development which the Republic has effected has been unexampled in its rapidity and force."—GLADSTONE.

ALREADY, in the course of this work, we have had occasion from time to time to make comparisons between the two greatest industrial nations of either modern or ancient times—the United Kingdom and the United States. But the effect of the growth and competition of these two countries upon each other, and upon the rest of the world, is so potent as to require that we should examine somewhat more minutely both the comparative and the relative conditions of their supremacy.

Those conditions are at the very outset rendered vastly unequal by the differences that distinguish the two countries in respect of extent of territory and natural resources—so much so, indeed, that we are called upon to make a contrast rather than a comparison.

The territory of the United States extends over an area of more than three millions of square miles. That of the United Kingdom is limited to 120,000 square miles. Texas alone embraces as large a territory as the German

Empire, England, and Wales combined, and it is claimed that the cultivable land possessed by that single State is fully equal to the area of good land in Germany and Great Britain. Then, again, Kansas, Nebraska, and Iowa, combined, more than equal France in area, and are said to contain a larger proportion of fertile land. But while the four States named have a population of but little more than five millions, the three European powers whose territory they rival have a united population considerably exceeding a hundred millions!

These figures need no comment. They show in the most vivid and unmistakeable light the infinitely greater resources of America relatively to population. So great is that capacity that it has been calculated by a writer of authority that the United States, which now contain nearly 60 millions of people, could readily sustain a hundred millions "without increasing the area of a single farm, or adding one to their number, by merely bringing our product up to the average standard of reasonably good agriculture, and then there might remain for export twice the quantity we now send abroad to feed the hungry in foreign lands."

The enormous extent of the recent development of the agricultural resources of the United States has already been referred to. There is no question about the dimensions of the national estate. It is vast to an extent of which we in Europe can form but a feeble conception. But this very vastness may possibly come to be a serious drawback, so far as the relations of America and Europe are concerned. At the present time the tendency of events is not altogether favourable to the future of American agriculture. The best land in the Eastern States has been taken up, and much of it has been so far exhausted as to render the European system of farming necessary—that is, careful attention to manuring, which is expensive, the observance of a rotation of crops, and the substitution, to a considerable degree, of green crops

for cereals. Concurrently with these processes of change, the value of land has been greatly increased, and the prices of agricultural products have been largely reduced.[1] In some districts, as in the State of Oregon, which is mainly devoted to wheat-growing, the cost of land has risen from 2.50 dols. to 25 and 30 dols. per acre. In Illinois, again, lands that were sold in 1873 at 1.25 dols. an acre, have since risen to from 5 to 15 dols. an acre, mainly through the facilities afforded by railroad construction. It has been much the same in Nebraska and the adjoining States, where, until the advent of the locomotive, the land generally sold at the Government price of 1.25 dols. an acre, while it is now worth from 5 to 10 dols. an acre, when within ten miles of a railway. When we come to add to such an increase in the cost of the land, a decrease to the amount of fully one-half, or even more, in the realised selling prices of the principal agricultural products, the first reflection that occurs to the mind is that the main source of American supremacy —that of agriculture—can hardly be in so satisfactory a condition as it was a few years ago.

There is, however, another side to the question. It is perfectly true that, in the most desirable localities, the land of America is worth to-day two or three times as much as it would have sold for ten or a dozen years ago, and that the tendency of prices of agricultural produce has been steadily downwards over a considerable period.

[1] A recent official document shows that as between 1870 and 1880 the following changes have occurred in prices :—

| Commodity. | Price in 1870. | Price in 1879. | Price in 1879, calling the price in 1870, 100. |
|---|---|---|---|
| | dols. | dols. | dols. |
| Indian corn, per bushel | 0.925 | 0.471 | 196 |
| Oats " | 0.630 | 0.297 | 212 |
| Wheat " | 1.289 | 1.068 | 121 |
| Cotton, per lb. | 0.235 | 0.099 | 237 |
| Bacon and ham, per. lb. | 0.167 | 0.070 | 224 |

It is also true that much of the virgin soil, especially in the Eastern and Middle States, has become exhausted, and now requires to be farmed on European methods, which entail greatly more cost. But the American farmer has meanwhile gone on reducing the cost of cultivation in every direction. His labour bill is lighter, and he now applies machinery to a much larger extent than formerly. Even where he is compelled to nurse an almost exhausted soil, he is largely rewarded for his extra outlay by a heavier crop. And, finally, as a consequence of the improved value of his land, he is able to borrow money, where he requires it, on easisr terms than formerly, which is also a substantial gain.

The absence of an industrial census in European countries renders it much more difficult to compute their progress in agricultural improvements than in the case of the United States, where statistics of this kind are collected and collated with great fulness. The report of the tenth census of that country (1880) makes it apparent that no effort is spared to substitute labour-saving appliances for hand-labour, which, as M. Michel Chevalier truly says, is the only thing that can enable dear labour to compete with cheap. Look only at agricultural implements, which are, more than anything else, necessary to the development of the chief interest of the United States. There were, in 1880, 1943 separate establishments devoted to this industry, having an aggregate capital of 62 million dollars, employing over thirty-eight thousand hands, and using raw materials to the value of over 31 million dols. per annum. With these means of production, over a million different machines were produced, valued at 68½ million dollars, including about 20,000 required for cotton-planting. In this enormous number of agricultural implements, we find over 68,000 corn-planters, 43,000 grain-drills, 20,000 seed-sowers, and so on. The total number of separate farms in the United States is estimated at over four

millions, so that, even at this rate of supply, the average number of implements supplied to each farm would only be at the rate of one in four years. And this process is continued from year to year in a constantly increasing degree. The value of the farm implements of the United States in 1880 is stated in the census report at 406½ million dollars, being an average of over 100 dollars per farm.

It is not alone in the United States that agricultural land has greatly risen in value within recent years. The same movement has been characteristic of our own and other European countries, and has had to be met in the same way, namely, by endeavouring to reduce the other items that enter into the cost of husbandry. The increased value of land in the United States has been mainly due to the development of railways, which have afforded to the agricultural interest better facilities for marketing their produce.

In England, the unearned increment of land, of which we are accustomed to hear so much, has been due, partly to the same cause, but principally to the greater demand for a very limited commodity, arising out of the great increase of population. And what is the extent of this unearned increment? It has already been stated that the average agricultural value of land in England was 13s. per acre in 1770 and 30s. per acre in 1880.[1] Now, if we multiply the fifty million acres of land under cultivation in the country by the difference between these two sums, we get a total of about 38 millions sterling a year, as the increased amount of rental passing into the hands of the landowners, by the unearned increment of the

[1] It is possible to go much farther back than 1770, but for all practical purposes that date affords a sufficient basis for comparison. In 1100 the rent of land in England was 1s. 6d. per acre; in 1410, the rent of arable land was 1s. 1½d. and of meadow 11½d. per acre; and from 1692, when a land-tax of 4s. in the £ was imposed, the rent of land rose largely.

last hundred years. Multiply this figure again by thirty years' purchase, and we have a capital sum of over 1136 million of pounds as the gross difference in the value of the land of Great Britain and Ireland to-day as compared with 1770. It would, however, be both an economic error, and an injustice to the landlords of England, to suppose that the whole of this amount had been "unearned." A very great part of it has been as fully earned by improvements in draining, fencing, &c., by the erection of new buildings, by the opening up of communications, and so forth, as a manufacturer earns the fruits of his joint capital and care. As bearing upon the subject of the cultivation of the land, however, there is a very material difference between the unearned increment of the two countries. That of the United States goes directly into the pockets of the actual cultivators of the soil,[1] and is applied mainly towards improvements and economies of husbandry, while that of the United Kingdom goes into the pockets of the so-called landed interest—a large proportion of whom are absentees, and comparatively few of whom take a practical interest in the development of the agricultural resources of the country.

In America, as in England, and indeed all over Europe, there has been a great fall of prices within the last two or three years, affecting nearly all agricultural products. In some cases these have been reduced in value by 100 per cent. As we have elsewhere shown, the great problem of the future is, Will America continue to flood the markets of Europe with her surplus of cereal productions as cheaply as she has hitherto done?

It would be interesting, if it were possible, to estimate

[1] Out of every 10,000 farms in the United States in 1880, 7444 were cultivated by the owners, 1752 were rented on a sort of metayer system of sharing the products, and only 804 were rented for a fixed money rental. In England, on the contrary, the number of farmers who own their holdings is comparatively limited.

the average increase in the capital of the agriculturists of the two countries during the last twenty years, through the rise in the values of live stock and otherwise. In our own country, it has been calculated that such increase, during the twenty years ending with 1875, was not less than 114 millions sterling. But even if this estimate were correct, there must have been a material decrease rather than an improvement since 1875, and that for two principal among many minor reasons. In the first place, the five years following 1874 were characterised by bad harvests, which greatly reduced the profits of farmers on the growing of cereals. The average gross money value of the wheat grown in the United Kingdom, not including the value of the straw, fell from £8, 15s. per acre during the four years ending 1874, to £6, 12s. during the five years ending 1880. During the latter period, the total area under wheat cultivation was about 16½ million acres, or an average of 3,280,000 acres per annum, so that the difference between the two periods would be equal to a money loss of about *thirty-five millions sterling*, on the item of wheat alone. The loss would have been much greater still but for the fact that during the six years ending 1880, the wheat-growing area of the United Kingdom was reduced by nearly 800,000 acres, or one-fourth of the whole. It is probable that the loss resulting from foot-and-mouth disease, and the depreciated value of other crops, has been equally great, and if so, we should have to debit the British farmers during this period with a loss of not less than seventy millions.

Nor is America less richly endowed with mineral resources, which, after agricultural wealth, are entitled to priority of consideration. While the coal-fields of the United Kingdom have been calculated at 11,000 square miles, of which a great part has already been exhausted, those of the United States have been estimated by Professor Rogers as exceeding 196,000 square miles. With-

in this latter area are to be found the best and the most easily and inexpensively workable coal-beds in the whole world. "In the western coalfields coal can be obtained at the cost of digging it—that is, at a cost of a cent or a cent and a quarter per bushel." [1] "What," asks an American writer, "is the value of 63,000 square miles of country, which yields coal, iron, oil, and salt beneath its fertile soil? Here are the elements of strength, heat, light, food, and the giant steam, opened at once to the science, skill, and untiring energy of an enterprising people." [2]

It may be asked, and with reason, But why, if America has all this wealth, does she not get along without protection? Even protectionists, when the policy of that system is not in question, are ready to admit the superior capabilities of the country, and its consequent competency to get along without the aid now so liberally placed at their disposal. As an example of what we mean, take the article recently contributed by Mr. Carnegie, one of the largest iron and steel makers in the United States, to an English magazine.[3] Speaking of Pittsburg, which, as the chief centre of the American iron trade, is perhaps the most protected city in the country, in the sense of which we speak, that gentleman says that it is, "so far as subterranean riches are concerned, the metropolis of the richest district in the known world." The coal resources of Pennsylvania are so great that "many thousands of tons of coke have been sold for 3s. 6d. per gross ton loaded on cars." [4] Again, "Gas coal is loaded on English tenders for 3s. per ton." [5] The oil-wells of the same State are among the most wonderful of the natural wonders of the universe. Mr. Carnegie tells of

[1] Jevons on "The Coal Question," p. 294.

[2] Gesner's "Treatise on Coal, Petroleum," &c. New York, 1861.

[3] *Macmillan's Magazine* for January 1885.

[4] This is less than one-half the price usually paid at collieries in England.

[5] English gas companies would generally be pleased to make their purchases at double this price.

one well, bought by himself and some friends for £8000, when the oil-supplies were but little known, which has since yielded over two hundred thousand pounds in dividends in a single year, and the value of which not long afterwards rose *to a million pounds sterling.*[1] Not less remarkable are the supplies of natural gas which a bountiful nature has vouchsafed for the use of man in the same highly-favoured district. This gas, originally regarded simply as a natural curiosity, is now being largely employed as a fuel for glass-works, iron-works, &c., in Pittsburg and its neighbourhood, and the advantages which its use has conferred may be estimated by the fact, admitted by Mr. Carnegie, that at his iron-works it has enabled the services of ninety firemen and the consumption of 400 tons of coal per day to be dispensed with! Truly, this is the land flowing with milk and honey for the manufacturer who is in a position to utilise both the gifts of nature and the advantages conferred by man's ingenuity and labour. "It can excite no surprise that a people of British extraction, endowed with the absolute possession of lands so rich, so extensive, and so easily accessible as those of the United States, should spread and multiply. It is nature in its kindest and most liberal mood that has chiefly contributed to the growth of the United States."[2]

Let us now see in what way and to what extent the United States, with all the unique advantages at their disposal, have developed their industry, commerce, and wealth. In making this inquiry we shall avoid reference to special industries, which have been more or less dealt with in previous sections. Only the broad general results will concern us here.

According to the census reports of the United States, which give a great deal of apparently careful attention

[1] These oil-wells had yielded 250 million barrels of oil up to 1884, and were then yielding at the rate of 70,000 barrels per day.

[2] Jevons on "The Coal Question," p. 295.

to the subject of the growth of national industries, the percentage increase of the manufactures of that country during the thirty years ending 1880, and at intermediate periods, was as under:—

*Tabular View of the Increase of American Manufactures.*

| Item. | Gain, 1860-70 per cent. | Gain, 1870-80 per cent. | Gain in 30 years, 1850-80 per cent. |
|---|---|---|---|
| Gross value of manufactured product | 124.42 | 26.87 | 426.89 |
| Net do. do. do. | 104.14 | 13.12 | 325.22 |
| Capital invested . . . . | 109.75 | 31.73 | 423.26 |
| Wages paid . . . . . | 104.71 | 22.22 | 300.39 |
| Hands employed . . . . | 56.64 | 33.04 | 185.22 |

It appears then from the foregoing figures that in every one of the items specified there was a much greater percentage gain between 1860 and 1870 than there was in the succeeding ten years, and this, too, notwithstanding the fact that in the former interval the United States passed through a devastating war—a war that involved an exhaustion of the country's treasure to an extent which has been calculated at not less than 2000 millions sterling. This is truly a hard thing to realise. Its explanation is perhaps chiefly to be found in the fact that "the American war did not—as do European dynastic wars—bequeath a legacy of armed hosts in millions, anxious, and prepared, and perpetually trained for contest. American armies march from industry to war, but afterwards return again to their former industry."

There are no means of accurately comparing the figures just quoted for the United States with those that relate to the United Kingdom, but it is probable that in this country we have, on the whole, pretty well kept pace with American industrial progress. We know from our export-trade returns that our manufactures have in-

creased more largely and more rapidly than at any former period. In all our staple trades there has been an immense development, the details whereof will be found set forth in other sections of this work. And it ought never to be forgotten, that whether the development of English industry has been more or less than that of the United States, it has at all events been a natural and healthy increase, and has not like that of most other nations of modern times been propped up by the crutches of protection.

In considering the natural resources possessed by different nations for the prosecution of industry and commerce, two cases may be cited as affording striking examples of the inability of industries to flourish simply because the raw materials are readily at command, or because cheap labour is procurable. The one case is that of the cotton trade of Mobile, the other is that of the shipping and shipbuilding trade of Norway and Sweden.

In the former case, we have a port placed in immediate contiguity to the large and important cotton-growing districts of the State of Alabama, to which it is the natural outlet, and having at command an almost unlimited amount of negro labour.[1] It is not long, indeed, since our consul at Mobile spoke of its cotton trade as having "raw material at hand, running power cheap, labour plenty and reasonable, and the profits, relieved of the expense of heavy freights, far ahead of those of northern manufactures."[2] And yet in the very same report it appeared that while Alabama had nearly two million acres under cotton crops, and produced more than 242 million lbs. of cotton, it only consumed, in its own cotton manufacture, $6\frac{3}{4}$ million lbs. of that quantity, being a little more than two per cent. of the whole. Of the remainder, nearly 63 million lbs. were exported to

[1] According to the census of 1880, Alabama had a negro population of 610,000.

[2] Commercial Consular Reports, No. 26, 1880.

Europe, and about 28 million lbs. of that quantity to Great Britain. Now the average value of the raw cotton exported from Mobile (converting the dollar at 4.20) was 3.33 cents per lb., or little more than 1½d. in English currency, whereas the average declared value of the same cotton delivered in English ports was 4.5d. per lb. In other words, the raw material at Mobile costs only about a third of what it does in England. If these figures are applied to the total exports of raw cotton into England, they bring out a sufficiently curious state of affairs. For if the English cotton manufacturers had been able to purchase their raw cotton in their own ports at the price quoted in Mobile, they would have had an additional profit on these imports from that port alone of £350,000. Or, it may be put in another way, namely, that if the manufacture of cotton in Mobile had been sufficiently large to have absorbed the whole quantity of cotton sent to England, it would have had this large sum as a premium in its favour. And yet the total number of cotton-spindles in Alabama in 1880 was not more than might be found in an average-sized mill in this country.

A second case that we proposed for consideration was that of the shipping and shipbuilding interests of Norway and Sweden. On the face of it, these countries are specially well situated for carrying on the shipbuilding industry. They have labour at little more than one-half the price paid in England, they possess enormous forests, whence they can draw unlimited supplies of timber at a cheap rate, and as they are sensible enough to avoid imposing heavy duties on such varieties of iron manufactures as are consumed on a large scale, they can import ship-plates from England at the same price as English shipbuilders have them, plus the freight, which may be taken at 10s. to 12s. per ton. And yet what are the facts as to the use made of these facilities? Why, simply this, that in 1876 there were 54,930 tons of shipping built

in the country, and 45,330 tons purchased abroad—presumably from England; that five years later the tonnage built at home had fallen to 26,500 tons, and that purchased abroad to 15,194 tons; and that in the latter year the tonnage added to the register of the country was 6106 tons under that of the previous year. Within the period embraced by these figures, capital invested in the shipping of the country is said to have fallen from 11½ millions to 9½ millions sterling; and this in spite of the advantages claimed for the Norwegian shipping trade in "the generally trustworthy, conscientious, and intelligent character of the officers employed, and the caution, order, and, above all, economy, with which maritime affairs are conducted."[1]

Americans are an ambitious, and, in commercial affairs, an aggressive people. They have a twofold aim before them—1st, to become quite independent of foreign supplies of all and every commodity that can be produced or manufactured at home; and 2d, to enter into competition with European countries in supplying the wants of neutral markets. As yet, however, they are a long way from having attained the fulfilment of either ambition. The imports continue to grow, and to grow considerably, in spite of the utmost efforts made to keep them down by the imposition of high protective duties. Their total value in 1865 was only £41,931,000; in 1884, it was not less than £133,515,000. In the former year, £8,012,000 of the whole value of the imports was free of duty; in the latter year, £42,000,000 was free of duty, corresponding to 19 and 31 per cent. respectively, so that in the interval the proportion of the whole merchandise entered for consumption free of duty had considerably increased.

The population of the United States is now calculated to be about 55 millions. The total value of the imports and exports of merchandise during 1884 amounted to

[1] Consular Reports, No. 26, 1880.

1408 million dols., being an average of 25.6 dols. per head of the population. The average annual value of the exports and imports of the United Kingdom for the last three years was 3481 million dols., and assuming the population to have averaged 38 millions over that period, the average value of our total commerce per head of the population would come out as 91.6 or 258 per cent. more per head of the population than the foreign commerce of the United States. It is, however, important to note that while 724 million dols., or 51 per cent. of the total foreign commerce of the United States, took the form of exports, only 42.3 per cent. of the total commerce of Great Britain belonged to that category.

We shall now examine, as briefly as may be, the available statistics of the growth of property in the two countries under consideration. This investigation is obviously one of high economic importance, as bearing upon the question of the amount of capital at the command of each country, and the consequent ability of the people not only to purchase the comforts and conveniences of life, but the means of keeping abreast of the ever-increasing requirements of mechanical industry and commercial enterprise.

In 1840, beyond which we need not travel, the accumulated wealth of the United Kingdom was calculated by Porter to be four thousand millions sterling. That of the United States for the same year was shown by the census returns to be 3764 million dollars (753 millions sterling). Less than forty years ago, therefore, the wealth of the United Kingdom was more than five times that of the United States.

In 1860, it was calculated by Professor Leoni Levi, on much the same data as that adopted by Porter twenty years before, that the accumulated wealth of the United Kingdom reached a total of six thousand millions sterling. For the same year, the American census reports showed the value of the property of that

country to be 16,157 million dols. (3233 millions of pounds). Assuming the accuracy of both sets of figures, it would follow that, in the twenty years' interval, the wealth of the United States had increased from less than one-fifth to more than one-half that of the United Kingdom.

In 1879, Mr. R. Giffen calculated the accumulated wealth of the United Kingdom to be 8800 millions—an increase of 2800 millions on Professor Leoni Levi's estimate of twenty years before. The census report of the United States for 1880 stated the wealth of the American people at the same time to be 43,642 million dols. (8730 millions of pounds), being an increase of 5497 millions of pounds, or 95 per cent. more than that of the United Kingdom for the same period.

In the United States, the true value of real and personal property in 1850 was calculated at 7135 millions of dols., or an average of 308 dols. per inhabitant; in 1860, at 16,159 millions of dols., or 514 dols. *per capita;* in 1870, at 30,068 millions of dols., or 780 dols. *per capita;* and in 1880, at 43,642 million dols., or 870 dols. *per capita.*

These figures require some degree of explanation and qualification, in order to their correct appreciation. In the valuation given for 1870, the item of slaves, which formed a vast source of wealth in the Southern States, and was included in the two preceding valuations, finally disappears. On the other hand the nominal values of property are greatly swollen by being expressed in an inconvertible paper currency, which in the census year 1870 was at an average discount of about one-fifth in gold.

These limitations, however, do not apply to the years 1850 and 1880, both of which are expressed in gold currency, except to the extent that in the Southern States the former year embraced slave property, and the latter did not; and yet, notwithstanding the fact, there appears

to have been an absolute increase of wealth to the extent of 36,507 million dols., or over 500 per cent., the increase of wealth *per capita* for the same period being 562 dols., or 180 per cent.

But even the remarkable increment of wealth proved by these figures becomes of comparatively small account when contrasted with the growth of prosperity in the non-slave-owning states during the decade 1860–70. In the eighteen Northern and Western States during that interval the value of the property accumulated is shown by the census records to have increased to the extent of 159 per cent.; in Minnesota it increased to the extent of 337 per cent., and in New York by 252 per cent; while in the fifteen Southern slave-owning States the decrement of wealth, notwithstanding the loss of about three million slaves, was not more than 18 per cent. These figures would be astounding under circumstances the most favourable to the development of peaceful industry and national well-being, but when we recollect that during the interval to which they apply the country passed through one of the most devastating wars of modern times, they appear to establish an amount of vitality and recuperative strength that has probably never been paralleled, all things considered, in the world's history.

The different items which go to make up the aggregate wealth of the United Kingdom and the United States, respectively, may be thus expressed (£1 = 1000 :)[1]—

| | United Kingdom. | United States. |
|---|---|---|
| Farms | £1700 | £2040 |
| Business premises, &c. | 2400 | 1997 |
| Railroads and equipment | 800 | 1108 |
| Telegraphs, shipping, and canals | 120 | 84 |
| Live stock and farmers' capital | 360 | 501 |
| Household furniture and supplies and articles of personal use and adornment | 1100 | 1000 |

[1] In this table the figures that relate to the United States have been compiled from Census Reports; those relating to the United Kingdom have been computed by the author on the best data at command.

| | United Kingdom. | United States. |
|---|---|---|
| Mines and quarries, with ½ annual product reckoned as in hands of producers . . | 300 | 160 |
| ¾ of annual product of manufactures and agriculture, assumed to be average supply in hands of producers and dealers . . | 1300 | 1233 |
| Churches, schools, buildings, &c. . . | 450 | 400 |
| Specie . . . . . | 140 | 123 |
| Miscellaneous items, including artizans' tools, &c. . . . . | 170 | 130 |
| Totals . . . | £8840 | £8776 |

We have now seen that about 1880, for the first time in their eventful annals, the United States practically reached the same level of accumulated wealth as the mother country. It is necessary, however, to get somewhat behind the figures in order to appreciate the full bearing of the two sets of calculations. And first of all, it is obvious that the wealth of the United Kingdom is subject to reduction to the extent of our National Debt, which now amounts to a total of 746½ millions, against a total of only 320 millions for the United States. Relatively to population, the United Kingdom would still appear to remain the richest country, but how much longer, if any, can that be so? America has increased her wealth fully tenfold within the forty years under review. England has little more than doubled her wealth in the same interval. Basing our expectations for the future on the analogy of the past, it is evident that, as regards wealth, England will soon cease to be in the running with her precocious offspring. And not England alone, but the whole of Europe must be so overshadowed. For Europe as a whole has not only infinitely inferior natural resources, but the drain upon such resources as are possessed is immeasurably greater than in the United States. In Europe every 110 inhabitants—or in the ratio of one able-bodied man to five—and every twenty-two men sustain one soldier in active service. In the United States, on the contrary, every 2000 inhabitants, or 400

men, sustain one soldier. This means, as Mr. Atkinson has very properly pointed out, that in Europe the work of one adult male in every twenty-two is withdrawn from productive service, and must be sustained at a heavy cost by those who remain at work,[1] of whom again many more are compelled to waste a great part of their time in the reserves. This condition of things is reflected in the financial affairs of the two continents, which have already been dealt with. The average expenditure of Europe for national purposes is over £2 per inhabitant, while that of the United States is under 16s. The budgets of European States are showing regularly-recurring deficits, while those of the United States show about 150 millions of dollars a year excess of revenue, so that the present annual burden of 100 million dollars of national taxation might be entirely remitted, and yet there would remain surplus sufficient to pay the whole debt of the country before the end of the century.[2] A recent American writer, having these facts in view, pertinently remarks that "it may well be asked whether the nations of Europe, burdened with standing armies, wasting the best years of their lives in idleness, at the cost to each fifty millions of their population in taxes of more than the sum which we might remove by one simple act of legislation, can expect to retain the control of the great commerce of the world against our competition."[3]

[1] In England the average cost per combatant is over £100; for the whole of Europe the average is about one half that figure.

[2] This remarkable condition of things is, of course, primarily the result of the tariff, which, while failing, as we have already shown, to fulfil its intended purpose of excluding foreign manufactures, taxes the American people, under the pretence of keeping up wages, by an amount that approximates *to the whole of the wages paid* in the industries which it is designed to assist.

[3] "The Standard of Adequate Railway Service." By Hon. Edward Atkinson. New York, 1883.

## CHAPTER XXVII.

### *THE ACHILLES' HEEL OF ENGLAND.*

'In florid beauty groves and fields appear,
Man seems the only growth that dwindles here,
Contrasted faults through all his manners reign;
Though poor, luxurious; though submissive, vain."

—GOLDSMITH.

THE post-Homeric story which tells us how Thetis dipped Achilles in the river Styx to make her son invulnerable, has a counterpart in the peculiar relationship that exists between England and the sister isle. There is no more vulnerable part of the British Empire than Ireland. No other part of the wide dominions that acknowledge England's sway has been so constant and so serious a source of anxiety and trouble, "since England's griefs began." That being so, it is impossible that we can disregard the influence that Ireland has exercised, and is likely to continue to exercise, in determining the future of the British Empire. That influence in the past has been decidedly sinister and malevolent. In the whole history of the connection of the two countries, there is scarcely a single feature or epoch that does not recall sorrowful and disturbing recollections. It is, from first to last, a record of disloyalty, treason, revolution, famine, and crime, scarcely relieved by a single ray of genuine progress, or a single gleam of real prosperity and content. The population of Ireland is perhaps the most poverty-stricken in Europe. It is at the same time the most thriftless, improvident, and unenterpris-

ing. Hence it has been accustomed to exist on the very border-land of starvation, removed only by the chances of a single season from the direst extremities. Industry has, from time to time, made a struggle to establish a footing, and has again and again been repelled, until it finally succumbed—

> "Like a snow-flake on the river,
> A moment seen, then lost for ever;"

with only one or two exceptions, the most notable of which are the linen trade of Ulster and the shipbuilding industry of Belfast. There is no country in Europe that has shown such a decline of population within recent years—the surest possible sign that its affairs are in a bad way. In brief, the condition-of-Ireland question is one of the most difficult and distracting problems that has ever been presented for solution to practical statesmen.

If we deem it to be desirable to examine the principal causes that have contributed to this unhappy result, it is less with the hope of being able to say anything that is new on a matter that has already been microscopically examined in every one of its kaleidoscopic aspects, than with the purpose of endeavouring to discover how far the empire as a whole has suffered by the misfortunes and sufferings, the disaffection and the crimes, of one of its most important members, and thereby, if possible, gleaning some hints that may be advantageously applied to casting the horoscope of the future. If Ireland is not understood, it certainly is not for lack of the means of understanding her affairs. Since the time that Arthur Young wrote his excellent account of the country in the last century, the fierce light of publicity, of dissection, and of criticism, has been turned continuously on her annals until the present hour.

The history of Ireland, from the earliest times of which a record is extant, has borne a striking correspondence with

its most recent records. Neither the contempt of order and authority, nor the terrible disregard of the sanctity of human life, nor the grinding poverty of social condition, are nineteenth century products, still less are these characteristic phenomena entirely the result of English rule. Of the one hundred and seventy-eight monarchs of the Milesian colony who successively ruled the country until the arrival of the English, A.D. 1170, sixty were treacherously murdered and succeeded by their assassins, while seventy-one more were slain in battle, so that only twenty died natural deaths. During this period "no man could enjoy his life, wife, lands, or goods in safety, if a mightier man than himself had an appetite for them, and the weak had no remedy against the strong."[1] "The mass of the people," says another writer, "were in a state of brutal servitude."[2] From the fourteenth to the eighteenth centuries, Ireland had a Parliament of her own at irregular intervals, but there is no evidence to show that the people were thereby more tranquil or prosperous. A history of the condition of the country during the last Irish Parliament reads very much like an exaggerated account of the most recent times. From 1782 downwards until the Union, the whole island was kept in the most wretched turmoil, day and night, by disorderly and disaffected organisations, who bore designations many of which are kept up to the present day—such, for instance, as White-Boys, Peep-of-day-Boys, Catholic Committees, Tarring and Feathering Committees, Defenders, Houghers of men and cattle, Emancipators, United Irishmen, Reformers, Revolutionists, &c. Assassinations became events of every-day occurrence; insidious speeches, proclamations, and publications of pretended patriots or dangerous enthusiasts were scattered broadcast; plans of general insurrection were drawn up; negotiations carried on for foreign assistance in men and money; the disin-

[1] *Vide* Sir John Davis's Annals.

[2] Martin's "Ireland before and after the Union."

tegration of the Empire was openly proclaimed; and the establishment of a republic, under the protection of France and America, was demanded. All this has had a striking counterpart in Ireland's more recent history. *Mutatis mutandis*, Ireland is to-day, and looks as if she would continue to remain, what she was a hundred years ago.

The unhappy state of Ireland is usually supposed to be largely a consequence of the great and exceptional poverty of the country, which has been attributed by a well-known writer on the subject to the following special causes :—

1. Its too dense population in proportion to its cultivable area.
2. The poverty of the soil, only two-thirds of which are arable.
3. The absence of continuity of employment and habits of industry.[1]
4. Disinclination to adopt improvements.
5. Early marriages.
6. The demoralising and unsettling effects of political agitation.

The poverty of Ireland has often, and not unreasonably, been ascribed to the evils of over-population. In 1841, the population was in the ratio of 251 to the square mile of area. No other population in Europe, excepting only that of England and Wales, was then so dense. Between 1800 and 1841, Ireland is stated to have doubled her population.[2] No other country, excepting only the United States, achieved this distinction within the same interval. Had the soil of Ireland been

[1] There is apparently too much reason to believe that the Irishman, in his own country, is not a pattern of industry. What with markets, fairs, wakes, and other holiday and special occasions, it has been calculated that the average Irishman does not work more than two hundred days in the year.

[2] It is possible that the Census Reports err in this showing, the earlier returns not being very satisfactory.

exceptionally good, or had industrial enterprise been developed at the same rate as it was during the same forty years' interval in England, this great growth of population would not have produced such serious consequences. But Ireland was always a poor country, even from an agricultural point of view. More than a fourth of the soil is incapable of cultivation, and the remaining three-fourths, owing partly to the intrinsic poverty of the land, partly to the exceptional moisture of the climate, partly to want of capital, and consequent slovenly and imperfect cultivation, has not produced, acre for acre, anything like the average yield which is got from the sister island. Since 1840, the density of population has been very greatly reduced. Instead of an average of 251, there is now only an average of about 160 inhabitants, to the square mile of area. Had the conditions otherwise remained the same, as between the two periods, this fact would have tended to the amelioration of those who remained. But the conditions are very far from being otherwise the same. Between 1830 and 1840, the average *Gazette* price of wheat was over 57s. per imperial quarter, whereas it has now averaged less than 40s. for some time past. To the extent, therefore, of its wheat production, Irish agriculture has greatly suffered in the interval.[1] The value of nearly all other descriptions of agricultural produce has endured a similar, though far from uniform fall; and it is greatly to be feared that the increased value of cattle has not, on the whole, afforded adequate compensation for this all-round depreciation of the products of the soil.

There is no European country, and probably no country of modern times, that has shown such a steady tendency towards depopulation as Ireland has done within the last fifty years. Between 1821 and 1841 the population of

[1] The cultivation of wheat has consequently greatly declined, and is not now more than about 2 million cwt. (112 lbs.) a year out of a total of 25½ million cwt. of cereals grown in Ireland.

Ireland *increased* from 6,604,000 to 8,175,000, or about 23 per cent. But in the next decade the population *declined* by more than a million and a half, or about 20 per cent., and between 1845 and 1881, the total decrease of population was 3,135,000, or about 40 per cent. Of this decrease, more than two and three-quarter millions are accounted for by emigration. Of the remainder, and of the unexplained increase due to natural increment of population, the greater proportion will be found to have sought in England and Scotland for a means of livelihood denied to them at home.

Whatever the explanation of the decline of Ireland's population may be, it is not to be altogether found in the neglect of Irish interests by the Imperial Parliament. Since the Union many legislative and social advantages have accrued to the Irish people which they probably would never have attained under a Parliament of their own. Catholic Emancipation has been granted; the municipal corporations have been reformed; tithes were converted into a rent-charge to the relief of the poor cultivators; taxation has been materially diminished; a national system of education has been established; many millions of the Imperial revenues have been expended on public works; public banks and companies have been formed with British capital, for the benefit of the soil; legislative provision has been made for the sick, poor, and destitute; the prison law has been amended and consolidated; a survey and valuation of the country has been made with the view of redressing inequalities of taxation; the criminal code has been reformed; cheap and efficient justice has been provided; the Irish Church has been abolished; the Irish Land Act has been passed with the view of providing against rack-renting, and other abuses; and many similarly useful and ameliorative measures have become the law of the land. These facts fully justify the view expressed by Professor Cairnes when he says that "the misgovernment from which

Ireland is suffering, so far as it is of a positive kind, is not of recent date, and the sins of modern legislation against her have, at the worst, been sins of omission." [1] The question of how far Ireland has received justice at the hands of the British Government is complicated by many considerations that cannot be dealt with here; but remembering the past history of the country, and bearing also in mind the very exceptional measures that successive Governments have devised for the pacification and improvement of the people, it is difficult to believe that the common explanation of misgovernment is the only solution of the Irish problem.[2]

> "How small of all the ills that men endure,
> The part the kings can either make or cure."

If the apparently incurable poverty of the Irish people is to be traced, as we believe it is, not so much to actual misgovernment, which is a very convenient and readily-available stalking-horse, or to causes with which it is not the function of legislation to deal, as, for example, to the almost exclusive dependence of the people upon agriculture, and a special form of tuber in particular, or to their want of business capacity, or to rack-renting, or to the want of education, or to the absence of habits of industry and thrift, or to all these and other causes combined, then the evil and the danger are matters for serious concern. Social excrescences that can be removed by the simple and easy remedy of passing and applying an Act of Parliament are not usually found to be of such long standing as the Irish difficulty, which looks as if it were a canker that has eaten into the very heart of the nation, and which has gone too far to yield to surgical treatment.

[1] Political Essays, p. 143.

[2] Between the date of the Union and 1833, there were 60 Committees of Inquiry and 114 Reports of Commissioners, all bearing upon Irish interests. Since 1833 an equally prolific crop of inquiries and Acts has been reaped.

Although it has been contended that in Ireland, if anywhere in the British Empire, the poor have been growing poorer within recent years, this view is not supported by the most crucial test to which it can be brought—namely, the income-tax assessments. It appears, on the contrary, that the total annual value of the property and profits assessed to income-tax in Ireland increased by a million and a half between 1875 and 1884;[1] and as the increase has been chiefly in land, it may be capitalised at twenty years' purchase, which would represent a capital *increase of thirty millions sterling.*

On the other hand, however, there is some reason to doubt whether the actual condition of the people has been improved to the extent that these figures would indicate. There seems to be a greater prevalence of small holdings now than formerly, relatively to population. Fully 50 per cent. of all the agricultural holdings are under fifteen acres, and more than 20 per cent. are under five acres in extent. Then, again, the population of Ireland is almost exclusively an agricultural one. Only 13.3 per cent. of the whole population are engaged in industry, as compared with 24.5 per cent. of the whole population of England and Scotland.[2] The agricultural class—that is, those actually working in agriculture—number 19.0 per cent. of the whole population of Ireland, against only 5.3 of the population of England similarly occupied. It is, no doubt, possible to conceive of an agricultural population being at the same time numerous and flourishing. This is the condition of things in both the United States and our Australian colonies. It is less, but still to a large extent, true of the French and Danish peasantry. But the condition of the Irish cottier, who is the

[1] In England and Wales the corresponding increase was 49 millions, and in Scotland 8 millions, so that Ireland is relatively much behind either of the other two countries.

[2] According to the census returns of 1881.

typical agriculturist in that country, differs very widely from that of any one of the cases just mentioned. To begin with, he does not own an inch of the soil. Cottiers are for the most part on the verge of absolute pauperism. In the cultivation of a few acres of land, they see their sole chance of escape from emigration and the workhouse, and hence they have been accustomed to pay for their small holdings the utmost penny that they could wring from the soil under the pressure of prospective exile or beggary. It is not to be wondered at that under the peculiar circumstances of the country, Ireland should not only be decreasing in population, but that there should be an absolute decrease in the value of part of the property left for those that remain. This fact may be ascertained and tested in two ways. It is proved, in the first place, by the returns of live stock, which are published from year to year by the Agricultural Department, showing, as they do, that between 1872 and 1882 the total quantity of cattle, horses, sheep, and pigs in the country as a whole declined from 10,650,000 to 9,506,000. In other words, although the population of the country had, in this interval, actually declined by more than a quarter of a million, there were only 1.8 animals per head of the population in 1882, as compared with 1.9 per head in 1872. The same tendency towards increased poverty may be inferred from the statistics of house property. Between 1821 and 1841 the total number of houses built in Ireland increased from 1,164,000 to 1,384,000. Between 1841 and 1881 the number of houses declined by over 424,000, or 30 per cent. More recently rents have, it is true, been reduced on the whole, so that cottiers are not now called upon to pay so large a proportion of the produce of their holdings on this account. But it is to be remarked that this tendency is only another proof of the increasing poverty of the country, which never, at the best, although possessed of an almost equally good soil, returned the same average rental

as either England or Scotland.[1] When a country's total income becomes seriously diminished, it matters very little whether the diminution takes place in the rental value of the land, or in the value of the produce obtained from the soil—whether it is the income of the owner or the cultivator that is affected; the general result is a diminution in the means of living.

O'Connell, in 1843, declared that "more than 2,385,000 of the people of Ireland are, some for the entire, and others at least for a portion of the year, in a state of absolute destitution."[2] Although the returns of pauperism show that the total number of paupers is under 100,000, on an average of several years, it is not at all certain that the state of the population generally is much better now, as regards their preparedness to cope with poverty, than it was when O'Connell issued his famous manifesto. Between 1860 and 1880 the amount expended for the relief and management of the poor in Ireland had more than doubled. In other respects, there appears to be but little evidence of real improvement. The potato is still the staple crop, and if any serious failure of this humble tuber were to occur, we should have a repetition, on a more or less considerable scale, of the terrible famine of 1845. The average Irish peasant or cottier is content to grow sufficient corn and potatoes to keep the wolf from his door. The rent—where any rent is paid—is usually obtained by the rearing of pigs and poultry. How little able he is to do more than this may be judged from the fact that of the 660,185 holdings in Ireland in a recent year, 63 per cent. were valued at under £10 per annum, and about 34 per cent. were valued at under £4. The

[1] In 1871 the average rental or valuation of the 20 million acres of land in Ireland was returned at an average of about 13s. 6d. per acre, against an average of about £3, 5s. per acre for the 29 million acres of land in England, and about 20s. per acre for the 19 million acres of land in Scotland.

[2] Address to the inhabitants of the countries subject to the British crown.

land hunger of Irishmen is so great that wherever a man is possessed of the capital necessary to go into farming on a large scale, he is almost certain to increase his holding accordingly. And as it appears that only 12,367 of the agricultural holdings of Ireland are over £100 a year in value, it is safe to assume that the possession of capital could not be traced far beyond the limits of this number, which represents less than 2 per cent. of the total holdings in the country.

There is, however, no reason to believe that the soil of Ireland, where it is properly and fully cultivated, would be likely to prove less productive than the average of English soil. The official agricultural returns for Ireland show that, on an average of the ten years ending with 1883, some of them regarded as years of great depression, the mean yields of the principal crops, per acre, were considerably higher than those of other European countries, excepting England and Wales, or even than those of the United States.

These facts naturally lead us to consider whether it might not be possible to make more of the soil of Ireland than has yet been done. In other words, can the present population of Ireland, under any practicable set of circumstances, be extricated from their present miserably poor and depressed condition?

That Ireland is capable, if properly and judiciously dealt with, of yielding a much better return, even in an agricultural point of view, than she has yet had a chance to do, has long been admitted. Of her total area of about 28½ million acres, close on 5 million acres are under water, or are returned as bog and waste land. This large area has been increasing, instead of diminishing, within recent years.[1] In 1838, a statistical return published in Dublin gave the area of unimproved moun-

[1] In 1874, the total area so returned was 4,252,000 acres: in 1884, 4,843,000 acres. But it is stated that since 1877 the area under this head includes a large quantity of coarse mountain pasturage, which may have been formerly returned as grass.

tain and bog at 6,610,000 acres, or about 36 per cent. more than the quantity of land returned as belonging to this category in 1883. It is probable that in the interval a considerable quantity of bog and mountain land has been reclaimed; but it must not be forgotten that the statistics of agriculture, as of most other matters, were less accurately kept half a century ago than they are at the present day.

Two things are essentially necessary to any general and comprehensive scheme for the improvement of the vast area of bog land in Ireland with the view of bringing it under cultivation — first, that there should be secure and sufficient compensation to those who undertake such exploitation; and, second, that the system of agriculture should be so far improved, and the soil made capable of yielding so much better crops, as to allow of this compensation being obtained.

In 1809, a Commission was appointed to inquire into the nature and extent of the bogs of Ireland, and the practicability of draining and cultivating them. That Commission, in a report to the Society for the Improvement of Ireland, estimated the area of the principal bog lands to be close on three millions of acres, all of them situate at an elevation of more than 100 feet, and all but three upwards of 200 feet above sea-level, so that there was no difficulty about draining them into the nearest rivers and lakes, and thence, for the most part, into the sea. This cost was calculated by the Commission at rather over a million and a quarter pounds, or about 9s. per acre, but the further cost of reclamation was calculated by Mr. Edgeworth, an authority of that day, at £8, 15s. per acre. It is not, however, very long since the land of Ireland, over a great part of the country, was valued at less than 20s. per acre, and in the County Donegal more than a million acres were valued at *less than five shillings per acre.*[1] Since then rents have both

[1] The total number of acres surveyed up to 1843 was £8,042,280, and the annual valuation was only £4,316,746, averaging 10s. 8¾d. per acre.

risen and fallen. At the present time, and for some years past, there has been a too-successful movement in progress to stop the payment of rents altogether. The present rental value of the land is probably not much more than one-half of what it was twenty years ago. It is needless to add that so long as this state of things continues to be in the remotest degree possible, capitalists are not likely to undertake any expenditure of the character suggested. Before such an event can come to pass, law and order must be more respected than they have recently been. The same remark applies to many other obvious improvements that have been retarded by the want of security induced by the anarchical state of the country. Ireland is not without mineral resources, but no one in his sober senses would invest money with a view to their development until he could feel more secure than the recent state of things permits.

Railways and canals have not been developed to the same extent, relatively to both area and population, as in the other parts of the United Kingdom, for the same reason. And it is mainly this disinclination to embark money in industrial ventures that makes and keeps the country so poor. In other parts of the Empire during the present century, industries have almost continuously flourished, and the earnings of labour have steadily increased. In Ireland, the opposite state of things has been the rule.[1] If the average rate of wages paid in such industries as are cultivated in Ireland could be ascertained with precision, it would be found, we believe, that they are generally much below those paid in England. But this is not the worst of it. The actual rate of wages would not so much matter, if regular employment could

[1] Evidence was given before the Irish Hand-loom Weavers' Commission of 1838 to show that whereas in 1800 a weaver could earn 2s. 6d to 3s. 6d. by a good day's work, he could not in 1837 earn more than 10d. to 1s. This state of things was, of course, largely due to the introduction of power-looms, which soon gave better wages in England than were possible by hand-looms, but in Ireland produced no corresponding amelioration.

be obtained. It is the want of the means of employment that is most to be deplored.

There is nothing more calculated to make a people dissatisfied and revolutionary than the pressure of poverty and the resentment of neglect. The past history of Ireland does not justify the expectation that in a life-and-death struggle for national existence, which may overtake us at any time, and which has more than once recently been threatened, England would derive substantial aid and sympathy from her Hibernian adjunct. If Irish conspirators could be prevented in such a case, from plotting actual hurt to England's cause, it is probably, judging from the past, as much as we may expect. When England was engaged in her struggles with the greater part of Europe in the later years of the last and the earlier years of this present century, Ireland carried on regular communication with the French Directory, and harassed the English Government in their direst straits by plans of insurrection. The danger then threatened can hardly be regarded as past. The spirit that prompted this active attempt at dismemberment has not been exorcised. Whether it ever will be laid, and how best to deal with it, are among the most crucial and difficult problems now presented for the solution of practical politicians.

# APPENDIX.

I.—*Declared Value of British Imports and Exports of Merchandise, and Proportion* per Capita, 1840—1883.

| Years. | Imports. Total Value. | Proportion per Head of Population U.K. | Exports. British Produce. Total Value. | Proportion per Head of Population U.K. |
|---|---|---|---|---|
| **1840** | **£62,004,000** | **£2 7 6¾** | **£51,308,740** | **£1 18 9** |
| 1854 . | 152,389,053 | 5 10 2 | 97,184,726 | 3 10 2 |
| 1855 . | 143,542,850 | 5 3 2 | 95,688,085 | 3 8 10 |
| 1856 . | 172,554,154 | 6 3 2 | 115,826,948 | 4 2 10 |
| 1857 . | 187,844,441 | 6 13 5 | 122,066,107 | 4 6 7 |
| 1858 . | 174,583,832 | 5 16 0 | 116,608,756 | 4 2 5 |
| 1859 . | 179,182,355 | 6 5 5 | 130,411,529 | 4 11 2 |
| 1860 . | 210,530,873 | 7 7 0 | 135,891,227 | 4 14 7 |
| 1861 . | 217,485,024 | 7 10 2 | 125,102,814 | 4 6 5 |
| 1862 . | 225,716,976 | 7 14 7 | 123,992,264 | 4 5 7 |
| 1863 . | 248,919,020 | 8 9 5 | 146,602,342 | 5 0 0 |
| 1864 . | 274,952,172 | 9 6 2 | 160,449,053 | 5 8 7 |
| 1865 . | 271,072,285 | 9 2 0 | 165,835,725 | 5 11 5 |
| 1866 . | 295,290,274 | 9 17 2 | 188,917,536 | 6 6 2 |
| 1867 . | 275,183,137 | 9 1 5 | 180,961,923 | 5 19 4 |
| 1868 . | 294,693,608 | 9 12 10 | 179,677,812 | 5 17 4 |
| 1869 . | 295,460,514 | 9 11 2 | 189,953,957 | 6 2 7 |
| 1870 . | 303,257,493 | 9 14 4 | 199,586,822 | 6 7 11 |
| 1871 . | 331,015,480 | 10 10 1 | 223,066,162 | 7 1 7 |
| 1872 . | 354,693,624 | 11 2 6 | 256,257,347 | 8 1 0 |
| 1873 . | 371,287,372 | 11 11 2 | 255,164,603 | 7 18 10 |
| 1874 . | 370,082,701 | 11 8 3 | 239,558,121 | 7 7 9 |
| 1875 . | 373,939,577 | 11 8 5 | 223,465,963 | 6 16 6 |
| 1876 . | 375,154,733 | 11 6 8 | 200,639,204 | 6 1 3 |
| 1877 . | 394,419,682 | 11 15 10 | 198,893,065 | 5 18 11 |
| 1878 . | 368,770,742 | 10 18 3 | 192,848,914 | 5 14 1 |
| 1879 . | 362,991,875 | 10 12 7 | 191,551,758 | 5 12 2 |
| 1880 . | 411,229,565 | 11 18 7 | 223,060,446 | 6 9 5 |
| 1881 . | 397,022,489 | 11 7 4 | 234,022,678 | 6 14 0 |
| 1882 . | 413,019,608 | 11 14 1 | 241,467,162 | 6 16 10 |
| 1883 . | 426,891,579 | 11 19 9 | 239,799,473 | 6 14 8 |

II.—*Statement showing the Amount Paid as Wages, the Value of the Raw Materials Employed, and the Products Obtained, in the leading Manufactures of the United States in the Census Year* 1880.

| Industry. | Capital Embarked. | Wages Paid. | Value of Raw Materials Employed. | Value of Products. | Profit Yielded. | Percentage on Capital Embarked. |
|---|---|---|---|---|---|---|
| | (1=1000) Dols. | (1=1000) Dols. | (1=1000) Dols. | (1=1000) Dols. | (1=1000) Dols. | % |
| Agricultural implements | 62,109 | 15,359 | 31,531 | 68,640 | 21,750 | 35.02 |
| Boots and shoes | 42,994 | 43,001 | 102,442 | 166,050 | 20,607 | 47.93 |
| Chemicals | 85,394 | 11,840 | 77,494 | 117,377 | 28,043 | 32.84 |
| Cotton | 208,280 | 42,040 | 102,206 | 192,090 | 47,844 | 22.97 |
| Flour & grist mills | 177,361 | 17,422 | 441,545 | 505,185 | 46,218 | 26.06 |
| Iron and steel | 230,071 | 55,476 | 191,271 | 296,557 | 49,810 | 21.65 |
| Leather | 16,878 | 4,845 | 50,306 | 71,351 | 16,200 | 95.10 |
| Mixed textiles | 37,996 | 13,316 | 37,227 | 66,221 | 15,678 | 41.26 |
| Paper | 46,241 | 8,525 | 33,951 | 55,109 | 12,633 | 27.32 |
| Shipbuilding | 20,979 | 12,713 | 19,736 | 36,800 | 4,351 | 20.74 |
| Woollen goods | 96,095 | 25,836 | 100,845 | 160,606 | 33,925 | 35.30 |
| Worsted goods | 20,374 | 5,683 | 22,013 | 33,549 | 5,853 | 28.73 |
| Coke | 5,545 | 1,198 | 2,995 | 5,359 | 1,166 | 21.03 |
| Glass | 19,844 | 9,144 | 8,028 | 21,154 | 3,982 | 20.07 |
| Carriage & wagon building | 37,973 | 18,988 | 30,597 | 64,951 | 15,366 | 40.47 |
| Foundries and machine shops | 154,519 | 65,982 | 103,345 | 214,378 | 45,051 | 29.16 |

III.—*Tabular View of Increase of Manufactures in Leading States of America,* 1850–80.

| | No. of Establishments. | | Hands Employed. | | Capital Invested. | |
|---|---|---|---|---|---|---|
| | 1850. | 1880. | 1850. | 1880. | 1850. | 1880. |
| | | | | | (1=1000 Dols). | |
| Massachusetts | 8,852 | 14,352 | 177,461 | 352,255 | 88,940 | 303,806 |
| Connecticut | 3,737 | 4,488 | 50,731 | 112,915 | 25,876 | 120,480 |
| New York | 23,553 | 42,739 | 199,349 | 531,533 | 90,904 | 514,246 |
| Pennsylvania | 21,605 | 31,232 | 146,766 | 387,072 | 94,473 | 474,510 |
| Ohio | 10,622 | 20,699 | 51,491 | 183,609 | 29,019 | 188,939 |
| Illinois | 3,162 | 14,549 | 11,559 | 144,727 | 6,217 | 140,652 |
| Michigan | 2,033 | 8,873 | 9,344 | 77,591 | 6,563 | 92,930 |
| Missouri | 2,923 | 8,592 | 15,808 | 63,995 | 8,576 | 72,507 |
| Wisconsin | 1,262 | 7,674 | 6,089 | 57,109 | 3,382 | 73,821 |
| California | 1,003 | 5,885 | 3,964 | 43,693 | 1,006 | 61,243 |
| Totals | 78,752 | 159,083 | 672,562 | 1,954,499 | 354,956 | 2,043,134 |

IV.—*Gross Amount of Annual Value of Property and Profits Assessed to the Income-Tax in the United Kingdom under Schedules A and D.*

| Description. | Year 1865. | Year 1868. | Year 1870. | Year 1873. | Year 1875. | Year 1878. | Year 1880. | Year 1884. |
|---|---|---|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ | £ | £ | £ |
| Lands . . . | 62,127 | 64,109 | 64,133 | 65,514 | 66,911 | 69,324 | 69,548 | 65,442 |
| Houses . . . | 68,757 | 78,126 | 81,519 | 89,457 | 94,638 | 106,976 | 115,006 | 127,050 |
| Mines . . . | 4,829 | 5,745 | 5,544 | 7,283 | 14,108 | 12,899 | 7,501 | 7,064 |
| Ironworks . . | 1,798 | 2,014 | 2,019 | 4,762 | 7,261 | 2,315 | 1,720 | 3,010 |
| Railways . . | 16,576 | 18,831 | 20,718 | 25,440 | 27,545 | 28,290 | 29,367 | 36,830 |
| Canals . . . | 900 | 743 | 747 | 790 | 1,007 | 2,993 | 3,189 | 3,365 |
| Gasworks . . | 1,849 | 1,991 | 2,157 | 2,797 | 2,630 | 3,923 | 4,175 | 4,879 |
| Quarries . . | 590 | 641 | 697 | 763 | 916 | 1,341 | 1,149 | 913 |
| Other profits . | 3,012 | 2,437 | 2,745 | 3,413 | 3,801 | 4,346 | 4,708 | 5,178 |

V.—*Wealth and Income of Different Countries Compared.*

| | Million £. | | Per Inhabitants. | | Income on Capital: Percentage. | Annual Savings. | |
|---|---|---|---|---|---|---|---|
| | Wealth. | Income. | Wealth. | Income. | | Million £. | Per Inhabitant. |
| United Kingdom . . | 8,720 | 1,247 | £248 | £35 | 14·3 | 154 | 84 |
| France . . . . . | 8,060 | 965 | 218 | 26 | 12·0 | 140 | 73 |
| Germany . . . . . | 6,323 | 850 | 140 | 19 | 13·5 | 40 | 18 |
| Russia . . . . . | 4,343 | 760 | 53 | 9 | 17·5 | 10 | 2 |
| Austria . . . . . | 3,613 | 602 | 95 | 16 | 16·7 | 40 | 22 |
| Italy . . . . . | 2,351 | 292 | 82 | 11 | 12·4 | 10 | 7 |
| Spain . . . . . | 1,593 | 188 | 93 | 12 | 11·7 | 8 | 9 |
| Portugal . . . . . | 371 | 45 | 90 | 11 | 12·2 | 2 | 8 |
| Belgium . . . . . | 806 | 120 | 145 | 22 | 14·9 | 11 | 40 |
| Holland . . . . . | 987 | 104 | 240 | 26 | 10·5 | 9 | 42 |
| Denmark . . . . . | 366 | 47 | 198 | 24 | 12·8 | 3 | 30 |
| Sweden and Norway . | 977 | 104 | 152 | 16 | 10·6 | 7 | 22 |
| Switzerland . . . . | 324 | 44 | 126 | 16 | 13·5 | 5 | 36 |
| Greece . . . . . | 211 | 23 | 116 | 12 | 11·0 | 1 | 19 |
| Europe . . . . . | 39,045 | 5,391 | 126 | 18 | 13·8 | 440 | 27 |
| United States . . . | 9,495 | 1,420 | 180 | 27 | 14·9 | 210 | 77 |
| Canada . . . . . | 650 | 118 | 148 | 27 | 18·1 | 15 | 63 |
| Mexico . . . . . | 638 | 104 | 65 | 11 | 11·0 | ... | ... |
| Argentine Republic . | 332 | 61 | 146 | 27 | 18.4 | 5 | 38 |
| Australia . . . . . | 590 | 133 | 197 | 44 | 22·6 | 22 | 135 |
| Total . . . . . | 50,750 | 7,227 | 137 | 19 | 14·2 | 692 | 35 |

VI.—*General Average Weekly Wages paid to Employés in leading Industries in Great Britain and United States (Massachusetts) in each of the Years 1872 and 1883.*

(From the Annual Report of the Massachusetts *Bureau of Labour Statistics for* 1884.)

| Industry. | Average Weekly Wages paid in | | | |
|---|---|---|---|---|
| | Great Britain. | | United States. | |
| | 1872. | 1883. | 1872. | 1883. |
| | *s.* *d.* | *s.* *d.* | *s.* *d.* | *s.* *d.* |
| Boots and shoes | 23 6 | 18 2 | 61 4 | 48 5 |
| Building trades | 27 8 | 30 0 | 65 2 | 62 5 |
| Carriages and waggons | 27 3 | 20 4 | 71 3 | 57 6 |
| Clothing | 24 1 | 25 11 | 51 6 | 42 5 |
| Cotton goods | 22 4 | 19 5 | 33 11 | 26 10 |
| Flax, linen, hemp, and jute goods | 13 8 | 11 10 | 32 0 | 26 11 |
| Food preparations | 19 1 | 11 4 | 40 4 | 40 10 |
| Glass | 29 0 | 28 11 | 47 5 | 51 2 |
| Machines and machinery | 28 2 | 28 0 | 56 3 | 48 11 |
| Metals and metallic goods | 28 6 | 30 10 | 64 8 | 46 10 |
| Printing and publishing | 27 3 | 23 0 | 53 6 | 47 4 |
| Printing, dyeing, bleaching, and finishing cotton textiles | 25 9 | 20 9 | 53 8 | 36 2 |
| | (Iron.) | | (Wood.) | |
| Shipbuilding | 28 2 | 33 11 | 67 4 | 85 2 |
| Woollen goods | 19 4 | 20 3 | 30 4 | 28 9 |

VII.—*Number of Hands Employed in Different Occupations in Montreal (Canada), and Total Annual and Average Wages paid in* 1871 *and* 1881.

| Industry. | Total Persons Employed. | | Total amount paid in Wages. | | Average Wages paid Annually per Employé. | |
|---|---|---|---|---|---|---|
| | 1871. | 1881. | 1871. | 1881. | 1871. | 1881. |
| | | | Dols. | Dols. | Dols. | Dols. |
| Agricultural implements | 22 | 69 | 7,300 | 17,800 | 332 | 258 |
| Bakeries | 339 | 469 | 97,274 | 138,732 | 287 | 296 |
| Blacksmiths | 165 | 180 | 45,776 | 50,558 | 277 | 281 |
| Brickmakers | 203 | 324 | 39,000 | 78,950 | 192 | 244 |
| Carriage and wagon works | 60 | 1210 | 36,000 | 553,588 | 600 | 458 |
| Carpenters | 754 | 520 | 282,114 | 108,649 | 374 | 209 |
| Coopers | 153 | 147 | 44,483 | 50,335 | 291 | 342 |
| Cotton-workers | 123 | 724 | 19,500 | 134,200 | 158 | 185 |
| Ironfounders, &c. | 1282 | 1390 | 378,574 | 482,266 | 295 | 347 |
| Millers | 104 | 200 | 32,680 | 208,300 | 314 | 1041 |
| Cabinetmakers | 383 | 852 | 104,499 | 337,075 | 273 | 396 |
| Ironworkers | 380 | 1126 | 121,860 | 389,000 | 321 | 345 |
| Printers | 766 | 878 | 249,550 | 334,312 | 326 | 381 |
| Sawyers | 97 | 292 | 28,100 | 96,400 | 290 | 330 |
| Shipbuilders | 158 | 103 | 54,200 | 27,500 | 343 | 267 |
| Tin and sheet-iron workers | 345 | 362 | 87,966 | 77,656 | 255 | 215 |
| Workers in tobacco | 1110 | 2293 | 190,687 | 392,279 | 172 | 171 |

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